

Metropolitan Medical Response System (MMRS)

Equipment Technical Data and Information

1999 (revised)

MMRS Functions

- Medical treatment/Management
- Hospital/Public Health
- Incident Command Liaison
- Patient Transportation
- Agent Detection
- Decontamination
- Pharmacology
- Law Enforcement
- Intelligence/Security
- Mental Health Services
- Non-Survivor Disposition
- Training

MMRS Equipment

- Medical Emergency
- Personal Protective Equipment
- Agent Detection
- Patient Decontamination
- Communications
- Pharmacology Supplies
- Training Materials
- Transportation*

*Correlated to Community Requirement

The Research Planning, Inc. (RPI) Metropolitan Medical Response System (MMRS) Development Support Team continues to expand and strengthen its association with equipment manufacturers and vendors, offering equipment or services that may be useful in an MMRS response. It is our pleasure to pass this information on to the MMRS Development cities as part of our effort to continue “Sharing the Knowledge.”

The MMRS Development Support Team has assembled the “*Equipment Technical Data and Information*” book to assist in the MMRS Development and Equipment Identification process. The information in this book has been provided by manufacturers or vendors, and the use of trade or manufacturers’ names does not constitute a recommendation or endorsement of any commercial product. Any equipment specifications listed are subject to change without notice. The MMRS Support Team respectfully reminds all readers of this book that it is the user’s responsibility to determine the suitability or fitness of the items for a particular use or application.

NOTICE

Since the conditions of use of any of the equipment identified in this book are beyond the control of the U.S. Department of Health and Human Services (DHHS) and RPI, DHHS and RPI make no warranties, expressed or implied, regarding the suitability or fitness of any of the identified equipment for a particular use and assume no obligation or liability in connection with any use of this information.

**Total Washington Metropolitan Area (WMA)
Metropolitan Medical Strike Team (MMST)
Equipment Requirements**

	Unit Price	WMA MMST	
		Quantit y	Qty Total
<u>Personal Protective Equipment (PPE)</u>			
<i><u>Section 1 – Level A ENTRY Team (PPE)</u></i>			
KAPPLER RESPONDER PLUS Level A Suits	\$ 543.00	8	\$ 4,344.00
Bio-Pak 240 Rebreather (4-hr SCBA)	4,695.00	8	37,560.00
Pairs of North Butyl Gloves	13.45	10	134.50
Pairs North Silver Shields	4.90	10	49.00
Pairs Best “N” Dex Nitrile Gloves	1.80	10	18.00
ILC Dover Cool Vest	189.00	10	1,890.00
		Total	\$ 43,995.50
<i><u>Section 2 – Level C Decon Team (PPE)</u></i>			
Powered Air Purifying Respirator (PAPR)	\$ 425.75	129	\$ 54,921.75
Nicad Batteries (Extra)	109.20	43	4,695.60
10 Bank PAPR Battery Charger	596.54	7	4,175.78
TYVE-F Decon Suits (Color Gray)	81.00	129	10,449.00
Pairs of North Butyl Gloves	13.45	129	1,735.05
Pairs North Silver Shields	4.90	129	632.10
129 pr Best “N” Dex Nitrile Gloves (25 Pr/Box)	14.50	7	101.50
Pairs of HAZMAX 16” Kneeboots	43.30	129	5,585.70
TOPPS Nomex IIIA Coveralls	82.94	129	10,699.26
Racal Operations and Recognition Vests	99.99	129	12,898.71
Advent Safety Helmet	60.00	129	7,740.00
Safety Glasses	3.35	129	432.15
Hazardous Materials (HAZMAT) Gear Bag	39.99	129	5,158.71
Booklets of M-8 Detection Paper (2 Per Person)	150.00	5	750.00
		Total	\$119,975.31
<i><u>Section 3 – Replacement PPE Stored in Cache</u></i>			
TYVEK “F” Decon Suit (3 Extra Suits Per Team Position)	\$ 75.00	125	\$ 9,375.00
TYVEK “F” Decon Suit (3 Extra Suits Per Team Position)	81.00	4	324.00
TYVEK “F” Decon Suit (Training)	75.00	43	3,225.00
Pairs of North Butyl Gloves	13.45	129	1,735.05
Pairs North Silver Shields	4.90	258	1,264.20
258 pr Best “N” Dex Nitrile Gloves (25 Pr/Box)	14.50	12	174.00
Spare Oxygen Bottles for Bio Pak 240	500.00	5	2,500.00
Kit to Service Bio Paks	600.00	1	600.00
Lime Pak Refill in 44 gal Drum (11 Refills of Bio Pak)	252.50	2	505.00
Replacement Ice Pack for Cool Vest	75.00	1	75.00
Boxes GMAH Org Vapor/HEPA Carts (6 Carts/Box–3 Carts/PAPR)	90.84	22	1,998.48
		Total	\$ 21,775.73
PPE Total (Sections 1, 2, and 3 combined)			\$185,746.54

**Total WMA MMST Equipment Requirements
(Continued)**

	Unit Price	WMA MMST	
		Quantit y	Qty Total
<u>Communications Equipment</u>			
MTS2000 Model II Portable 800 MHz Analog Battery, Antenna	\$ 1,972.00	40	\$ 78,880.00
MTS2000 Model III Portable Analog Battery, Antenna	2,227.00	3	6,681.00
Swivel Leather Carrying Case	34.00	43	1,462.00
Extra Ultra-High Capacity Batteries	88.00	43	3,784.00
Throat Mikes for Radios	515.00	8	4,120.00
Multi-Unit (Six Pockets) Rapid Charger	573.75	6	3,442.50
Single Unit Rapid Charger	106.25	1	106.25
Spectra W7 Mobile 800 MHz 35W /Digital	2,807.00	1	2,807.00
Spectra C7 Mobile 403-433 MHz 40W Analog	1,717.00	1	1,717.00
Spectra C7 Mobile 450-482 MHz 40W Analog	1,717.00	1	1,717.00
Spectra C7 Mobile 482-512 MHz 40W Analog	1,717.00	1	1,717.00
Spectra C7 Mobile 136-174 MHz 50W Analog	1,630.00	1	1,630.00
Maxtrac 300 Mobile 29.7-36 MHz 60W Analog	750.00	1	750.00
Maxtrac 300 Mobile 42-50 MHz 60W Analog	750.00	1	750.00
Program Portables & Mobiles, Provide & Install Mobile/NIDA Box	7,737.00	1	7,737.00
Pager Service for Team Members (Annual)	119.00	0	--
		Total	\$117,300.75
<u>Detection Equipment</u>			
Box M-8 Detection Paper (50 Booklets/Box)	\$ 150.00	1	\$ 150.00
Rolls M-9 Detection Paper	35.00	2	70.00
M-256 Detection Kit	120.00	1	120.00
M-18 Detection Kit	310.00	2	620.00
Draeger Kit	852.75	1	852.75
Extra Draeger Tubes	367.55	1	367.55
Deluxe Pump Kit for Draeger Kit	374.50	1	374.50
Surface Acoustic Wave (SAW) MiniCAD	5,495.00	1	5,495.00
Chemical Agent Monitor (CAM) w/Alarms and Tips	7,500.00	2	15,000.00
CAM Audible Alarm	150.00	2	300.00
Ludlum Digital Scaler Ratemeter 2241	675.00	1	675.00
Ludlum Digital Scaler Ratemeter 2241-2	725.00	1	725.00
44-6 Side Window GM Probe (Beta/Gamma)	130.00	1	130.00
44-6 Side Window GM Probe (Beta/Gamma)	145.00	1	145.00
44-9 Pancake GM Detector (Alpha)	175.00	1	175.00
Self-Reading Dosimeters	110.00	10	1,100.00
Dosimeter Charger	95.00	1	95.00
Thermoluminescent Dosimeter (TLD) Type W8	6.30	43	270.90
		Total	\$ 26,665.70

**Total WMA MMST Equipment Requirements
(Continued)**

	Unit Price	WMA MMST	
		Quantity	Qty Total
<u>Decontamination Equipment</u>			
M-295 Individual Decon Kit	\$ 28.00	60	\$ 1,680.00
M-295 Individual Decon Kit	41.50	69	2,863.50
Decontamination System – Primary +\$2,000 Shipping	65,000.00	1	65,000.00
Decontamination System Supplies – Secondary	2,053.06	1	2,053.06
Decon Shower	520.00	1	520.00
Di-chlorite Powder (28 lb Buckets)	31.95	2	63.90
Chlorine Measurement Kit	52.30	1	52.30
95 Gal Poly Over Pak Drums	200.95	5	1,004.75
Cartons Belongings Bags	149.80	3	449.40
Paper Hospital Gown	1.20	400	480.00
Cartons Cadaver Bags	295.20	3	885.60
		Total	\$ 75,052.51
<u>Medical Equipment</u>			
SharpSafe Containers (100 Per Case)	\$ 310.00	2	\$ 620.00
Adult 18 GA.	1.14	1000	1,140.00
Adult 20 GA.	1.14	1000	1,140.00
PED. 22 GA.	1.14	500	570.00
Bacteriostatic Fluid	3.25	100	325.00
Butterfly 21 GA.	0.50	500	250.00
Lactated Ringers	2.80	1000	2,800.00
18 GA. Needle	7.95	10	79.50
20 GA. Needle	7.95	10	79.50
Sphygmomanometer (C)	22.85	15	342.75
Sphygmomanometer (I)	22.85	10	228.50
Sphygmomanometer (A)	14.00	20	280.00
E.T. (2.5) w/o Cuff	2.25	20	45.00
E.T. (3.5) w/o Cuff	2.25	20	45.00
NASO Airways 6mm	4.70	20	94.00
NASO Airways 8mm	4.70	20	94.00
Surg Mask w/Face Shield	27.50	8	220.00
O.B. Kit	8.25	5	41.25
Syringes, 1cc	0.14	1000	140.00
Syringes, 3cc	0.15	1000	150.00
Syringes, 5cc	0.20	1000	200.00
Syringes, 20cc	0.65	1000	650.00
Syringes, 30cc	0.80	1000	800.00
Syringes, 60cc	1.25	1000	1,250.00
Boxes Needles (21 g., 1"), 100 per Box	7.95	30	238.50
Oxygen Manifold – Minilator	199.00	8	1,592.00
Ambu Bags	19.95	20	399.00
O2 Tubing 7'	0.46	50	23.00
Nasal Cannula 7'	1.50	50	75.00
Non-Rebreather Mask	1.40	50	70.00
Carry Case	96.50	3	289.50
Stethoscope	7.25	20	145.00
		Total	\$14,416.50

**Total WMA MMST Equipment Requirements
(Continued)**

	Unit Price	WMA MMST	
		Quantit y	Qty Total
<u>Ancillary Equipment</u>			
Computer, Fax Modem, and Cabin and Med Software	\$ 4,225.00	2	\$ 8,450.00
Miscellaneous General Support Items	2,700.00	1	2,700.00
Portable Tent/Shelter	6,519.25	1	6,519.25
20-Foot Utility Trailer (Equip/Command)	4,608.01	1	4,608.01
Diesel Generator	3,359.00	1	3,359.00
Deployment Packaging	1,939.94	1	1,939.94
Personnel Command Vests	13.00	15	195.00
Boards, Phones, etc.	1,000.00	1	1,000.00
Color Coded Tarps	20.83	6	124.98
Raven Stretchers	346.75	10	3,467.50
Rolls Barrier Tape	13.90	10	139.00
		Total	\$ 32,502.68
		shipping/taxes	\$ 7,419.73
		TOTAL	\$459,104.41
<i>Prices are estimates and do not include handling or administrative costs. Figures are to be used as a planning tool only.</i>			

MMST Equipment for 50 Persons

MMST INDIVIDUAL EQUIPMENT	Unit Price	Total Requirements	Qty Total
Level C PPE			
<u>Individual Personal Protection Equipment</u>			
RRPAS with NiCAD	\$ 514.39.00	50	\$ 25,719.50
NiCAD Batteries (Extra)	109.20	50	5,460.00
10 Bank PAPR Battery Charger	596.54	5	2,982.70
TYVEK-F Decon Suits (Color Gray)	81.00	100	8,100.00
Pairs of North Butyl Gloves	13.45	100	1,345.00
Pairs North Silver Shields	4.90	100	490.00
Best "N" Dex Nitrile Gloves (25 Pr/Box)	14.50	4	58.00
Pairs of HAZMAX 16" Kneeboots	43.30	50	2,165.00
TOPPS Nomex IIIA Coveralls	82.94	50	4,147.00
"KIWI" Safety Helmet	125.00	50	6,250.00
Safety Glasses	3.35	50	167.50
HAZMAT Gear Bag	39.99	50	1,999.50
Boxes GMAH Org Vapor/HEPA Carts (6 Carts/Box – 3 Carts/PAPR)	90.84	25	2,271.00
Individual PPE Equipment			\$ 61,155.20
<i>Individual PPE Equipment Per Person</i>			\$ 1,223.10

**MMST Equipment for 50 Persons
(Continued)**

MMST TEAM EQUIPMENT	Unit Price	Total Requirements	Qty Total
<u>Level A ENTRY Team (PPE)</u>			
KAPPLER RESPONDER PLUS Level A Suits	\$ 543.00	12	\$ 6,516.00
Bio-Pak 240 Rebreather (4-hr SCBA)	4,695.00	12	56,340.00
Pairs of North Butyl Gloves	13.45	12	161.40
Pairs North Silver Shields	4.90	12	58.80
Best "N" Dex Nitrile Gloves (25 Pr/Box)	1.80	1	1.80
ILC Dover Cool Vest	189.00	12	2,268.00
HAZMAT Gear Bag	39.99	12	479.88
Spare Oxygen Bottles for Bio Pak 240	500.00	12	6,000.00
Kit to Service Bio Paks	600.00	1	600.00
Lime Pak Refill in 44 gal Drum (11 Refills of Bio Pak)	252.50	2	505.00
Replacement Ice Pack for Cool Vest	75.00	1	75.00
Level A Team Equipment			\$ 73,005.88

**MMST Equipment for 50 Persons
(Continued)**

	Unit Price	Total Requirements	Qty Total
<u>Detection Equipment</u>			
Box M-8 Detection Paper (50 Booklets/Box)	\$ 150.00	1	\$ 150.00
Rolls M-9 Detection Paper	35.00	2	70.00
M-256 Detection Kit	120.00	1	120.00
M-18 Detection Kit	310.00	1	310.00
Draeger Kit	852.75	1	852.75
Extra Draeger Tubes	367.55	1	367.55
Deluxe Pump Kit for Draeger Kit	374.50	1	374.50
SAW MiniCAD	5,495.00	1	5,495.00
CAM w/Alarms and Tips	8,000.00	1	8,000.00
4-Gas Portable Monitor	1,700.00	1	1,700.00
Photoionization Detector	1,325.00	1	1,325.00
Ludlum Digital Scaler Ratemeter 2241-2	725.00	1	725.00
44-6 Side Window GM Probe (Beta/Gamma)	145.00	1	145.00
44-9 Pancake GM Detector (Alpha)	175.00	1	175.00
Self-Reading Dosimeters	110.00	12	1,320.00
Dosimeter Charger	95.00	1	95.00
TLD Type W8	6.30	50	315.00
Detection Equipment Package			\$ 21,539.80

**MMST Equipment for 50 Persons
(Continued)**

	Unit Price	Total Requirements	Qty Total
<u>Decontamination Equipment</u>			
M-295 Individual Decon Kit	\$ 41.50	50	\$ 2,075.00
Decontamination System Supplies – Secondary	2,053.06	1	2,053.06
Decon Shower	520.00	1	520.00
Sodium Hypochlorite Powder (15-lb Buckets)	58.12	8	464.96
95-gal Poly Over Pak Drums	200.95	5	1,004.75
Cartons Belongings Bags	149.80	3	449.40
Paper Hospital Gowns	1.20	400	480.00
Cartons Cadaver Bags	295.20	4	1,180.80
Decontamination Equipment Sub-Package			\$ 8,227.97
Decontamination System – Primary	65,000.00	1	65,000.00
Transportation and Shipping (Average)	2,000.00	1	2,000.00
Decontamination Equipment Package			\$ 75,227.97

**MMST Equipment for 50 Persons
(Continued)**

	Unit Price	Total Requirements	Qty Total
<u>Ancillary Equipment</u>			
Miscellaneous General Support Items	\$ 3,000.00	1	\$ 3,000.00
20-Foot Utility Trailer (Equip/Command)	5,091.85	1	5,091.85
Raven Stretchers	365.00	10	3,650.00
Field Support Packaging	2,500.00	1	2,500.00
Ancillary Equipment Package			\$ 14,241.85
		Shipping	4,000.00
Total MMST Team Equipment			\$188,015.50
Total MMST Individual Equipment			\$ 61,155.20
Equipment Total			\$249,170.70
Prices are estimates and do not include handling or administrative costs.			

Pharmaceutical Product List for Metropolitan Medical Strike Team

PRODUCT	PRODUCT CODE	TEAM MEMBER PERSONAL CACHE	IMMEDIATE ON-SCENE TEAM CACHE	SECONDARY CALL-UP CACHE	TOTAL INVENTORY	UNIT ORDER SIZE (Package Size)	TOTAL UNITS TO ORDER	ESTIMATED UNIT COST	ESTIMATED PRODUCT COST	ANTICIPATED PRODUCT USE (On-Scene or Hospital Resupply)
ANALGESICS										
etoralac (Toradol) Injection 30mg/mL; 1mL	6505-01-357-5375	0	25	25	50	10	5	\$50.99	\$254.95	OH
CONTROLLED ANALGESICS										
utorphanol Injection 2mg/mL	6505-00-000-2978	0	25	25	50	10	5	\$31.28	\$156.40	OH
orphine Sulphate Injection 10mg/mL	6505-00-149-0113	0	25	25	50	10	5	\$5.57	\$27.85	OH
ANESTHETICS										
etamine HCl Injection 10mg/mL; 20mL Vial	NA	0	20	30	50	10	5	\$66.46	\$332.30	OH
idocaine 1% Injection; 20mL Vial	6505-00-000-2819	0	20	30	50	25	2	\$12.43	\$24.86	OH
idocaine 4% Viscous; 50mL	6505-00-772-0157	0	20	30	50	1	50	\$8.53	\$426.50	OH
ANTICONVULSANTS										
henytoin Injection 50mg/mL; 5mL	6505-00-139-4348	0	20	30	50	10	5	\$9.77	\$48.85	OH
henobarbital Injection 130mg/mL	6505-00-812-2556	0	0	50	50	10	5	\$21.87	\$109.35	OH
TOPICAL ANTI-INFECTIVES										
olysporin Ointment; 3gm Unit of Use Packets	NA	0	144	144	288	144	2	\$13.83	\$27.66	OH
ilver Sulfadiazine (Silvadene) Cream 1%; 85gm	NA	0	20	80	100	1	100	\$5.73	\$573.00	OH
CARDIOVASCULAR PRODUCTS										
tenolol 5mcg/ml Injection	NA	0	20	30	50	1	50	\$10.36	\$518.00	OH
alcium Chloride Injection 10% 10mL	6505-00-009-4968	0	20	30	50	10	5	\$14.01	\$70.05	OH
igoxin Injection 0.25mg/mL; 2mL amps	6505-00-531-7761	0	20	30	50	10	5	\$13.43	\$67.15	OH
opamine 250mg/600ml Injection	NA	0	20	30	50	10	5	\$19.08	\$95.40	OH
pinephrine 1:10,000 (0.1mg/mL); 10mL	6505-01-149-8559	0	30	20	50	25	2	\$36.58	\$73.16	OH
eparin 25,000/250ml D5W	NA	0	5	7	12	12	1	\$33.27	\$33.27	OH
idocaine 1% Injection; 2mL Prefilled Syringes (PFS)	6505-01-105-4179	0	20	30	50	10	5	\$45.93	\$229.65	OH
agnesium Sulfate Injection; 1gm	NA	0	20	30	50	10	5	\$63.36	\$316.80	OH
itroglycerin Injection 5mg/mL; 10mL	NA	0	5	10	15	10	1.5	\$4.59	\$6.89	OH
itroglycerin Tablets 1/150gr (bottles)	6505-00-687-3663	0	100	100	200	100	2	\$4.01	\$8.02	OH
otassium Chloride Injection; 10meg; 5mL	NA	0	10	20	30	10	3	\$48.12	\$144.36	OH

O – On-Scene Use
 H – Hospital Resupply
 HO – On-Scene or Hospital Resupply

Pharmaceutical Product List for Metropolitan Medical Strike Team

PRODUCT	PRODUCT CODE	TEAM MEMBER PERSONAL CACHE	IMMEDIATE ON- SCENE TEAM CACHE	SECONDARY CALL UP CACHE	TOTAL INVENTORY	UNIT ORDER SIZE (Package Size)	TOTAL UNITS TO ORDER	ESTIMATED UNIT COST	ESTIMATED PRODUCT COST	ANTICIPATED PRODUCT USE (On Scene or Hospital Resupply)
odium Bicarbonate Injection 50mEq; 50mL	6505-00-000-2921	0	10	20	30	10	3	\$16.28	\$48.84	OH
treptokinase 1.5mu Injection	NA	0	0	10	10	1	10	\$184.53	\$1,845.30	OH
ELECTROLYTES										
atorade (Oral Rehydration Electrolyte Powder)	NA	0	84	60	144	12	12	\$18.94	\$227.28	O
PSYCHOTHERAPEUTIC PRODUCT						10	0			
aloperidol Injection 5mg/mL	6505-00-268-8530	0	20	20	40	10	4	\$3.17	\$12.68	OH
PULMONARY PRODUCTS										
trovent Inhalers	6505-01-256-1948	0	10	10	20	1	20	\$18.09	\$361.80	OH
eclomethasone Inhaler	6505-01-240-0588	0	10	10	20	1	20	\$14.09	\$281.80	OH
piPen (or AnaKits)	6505-01-043-6795	0	20	20	40	1	40	\$8.14	\$325.60	OH
SERUMS, TOXOIDS, AND VACCINES										
amma Globulin; 5mL	NA	0	0	10	10	0	0		\$0.00	H
CHEMICAL AND NERVE GAS ANTIDOTES										
tropine/2-PAM Antidote Kit	NA	378	600	2022	3000	1	3000	\$13.01	\$39,030.00	OH
ana Kit (Diazepam)	NA	126	200	674	1000	1	1000	\$11.25	\$11,250.00	OH
illy Cyanide Antidote Kit	6505-00-000-2966	0	20	20	40	1	40	\$106.70	\$4,268.00	OH
291 Skin Decontaminating Kit	NA	0	0	1000	1000	5000	0.2	\$202.80	\$40.56	H
ethylprednisolone 80mg/mL; 1mL	6505-00-000-2890	0	20	20	40	10	4	\$21.22	\$84.88	OH
ralidoxime (2-PAM)			12	12	24	1	24	\$85.00	\$2,040.00	OH
BIOLOGICAL ANTIDOTES										
mantadine - 200 mg Capsules	6505-00-148-4624	0	0	400	400	100	4	\$10.30	\$41.20	H
mphotericin B Injection	6505-01-084-9453	0	0	10	10	1	10	\$6.78	\$67.80	H
icillin Cartridge Needle Units 1ml 600,000 Units	6505-00-133-4448	0	0	50	50	10	5	\$54.87	\$274.35	H
eftazidine 2gm Vial	NA	0	0	25	25	10	2.5	\$174.58	\$436.45	H
iprofloxacin 500mg Capsules	6505-01-333-4155	0	0	1000	1000	100	10	\$170.66	\$1,706.60	H
oxycycline 200mg Capsules	6505-01-153-4335	0	0	500	500	500	1	\$29.00	\$29.00	H

O – On-Scene Use
 H – Hospital Resupply
 HO – On-Scene or Hospital Resupply

Pharmaceutical Product List for Metropolitan Medical Strike Team

PRODUCT	PRODUCT CODE	TEAM MEMBER PERSONAL CACHE	IMMEDIATE ON- SCENE TEAM CACHE	SECONDARY CALL UP CACHE	TOTAL INVENTORY	UNIT ORDER SIZE (Package Size)	TOTAL UNITS TO ORDER	ESTIMATED UNIT COST	ESTIMATED PRODUCT COST	ANTICIPATED PRODUCT USE (On-Scene or Hospital Resupply)
Pentavalent Antitoxin and Toxoid (IND)	NA	0	0		0			\$0.00	\$0.00	H
Rifampin 300mg Capsules	6505-00-165-6575	0	0	500	500	100	5	\$44.31	\$221.55	H
Streptomycin 400mg/ml Injection	NA	0	0		0	10	0	\$0.00	\$0.00	H
Superactivated Charcoal	NA	0	0	5	5	1	5	\$7.15	\$35.75	H
Trimethoprim (TMP) and Sulfmethoxicol (SMX) 5ml Injection	NA	0	0	50	50	10	5	\$4.17	\$20.85	H
Vibramycin 100mg Capsules	6505-00-369-7296	0	0	100	100	50	2	\$2.97	\$5.94	H
Virazole - 6gms Powder / 100ml Vial (available only under IND status)	NA	0	0	4	4	4	1	\$4,031.15	\$4,031.15	H
RADIATION SPECIFIC										
Potassium Iodide, Tablets	6505-01-116-8198	0	0	4494	4494	14	321	\$1.06	\$340.26	H
ANCILLARY SUPPLIES										
Ambu Bag, Adult	NA	0	50	4	54	6	9	\$176.40	\$1,587.60	OH
Ambu Bag, Pediatric	NA	0	25	5	30	6	5	\$255.22	\$1,276.10	OH
Bandage Scissors 7"	6515-00-363-8840	0	20	20	40	1	40	\$2.19	\$87.60	OH
Biohard Bag	NA	0	150	350	500	250	2	\$20.57	\$41.14	OH
Bite Blocks	6515-01-100-8656	0	50	0	50	10	5	\$4.56	\$22.80	OH
Flashlight w/Batteries	6532-00-781-3671	0	10	20	30	1	30	\$5.81	\$174.30	OH
Gauze 4" x 4"	6510-00-782-2698	0	200	400	600	200	3	\$3.48	\$10.44	OH
Handi-Wipes	NA	0	2000	0	2000	100	20	\$2.17	\$43.40	O
Heparin Locks 10units/3ml	NA	0	200	0	200	200	1	\$453.60	\$453.60	O
Intravenous Catheter & Needle Unit, 14G x 2.25"	NA	0	100	100	200	200	1	\$359.38	\$359.38	OH
Intravenous Catheter & Needle Unit, 18G x 2"	NA	0	100	50	150	50	3	\$79.43	\$238.29	OH
Intravenous Catheter & Needle Unit, 22G x 2"	NA	0	50	50	100	50	2	\$79.54	\$159.08	OH
Intravenous Set, Butterfly, 12", 21G, 3/4"	NA	0	50	70	120	120	1	\$80.40	\$80.40	OH
IV Administration Set, 78", w/Clamp, Vented	NA	0	24	72	96	48	2	\$33.12	\$66.24	OH

O - On-Scene Use
 H - Hospital Resupply
 HO - On-Scene or Hospital Resupply

Pharmaceutical Product List for Metropolitan Medical Strike Team

PRODUCT	PRODUCT CODE	TEAM MEMBER PERSONAL CACHE	IMMEDIATE ON- SCENE TEAM CACHE	SECONDARY CALL UP CACHE	TOTAL INVENTORY	UNIT ORDER SIZE (Package Size)	TOTAL UNITS TO ORDER	ESTIMATED UNIT COST	ESTIMATED PRODUCT COST	ANTICIPATED PRODUCT USE (On-Scene or Hospital Resupply)
IV Administration Set, MICRO, w/clamp vented	NA	0	24	72	96	48	2	\$76.32	\$152.64	OH
Kling Gauze, 3"	6510-00-717-5094	0	10	10	20	1	20	\$0.45	\$9.00	OH
Laryngoscope (disposable) large (123mm x 25.7mm blade) #3 MacIntosh	56903	0	25	20	45	1	45	\$36.48	\$1,641.60	OH
Laryngoscope (disposable) small (77.5mm x 18.2mm blade) #2 MacIntosh	56901	0	10	20	30	1	30	\$36.48	\$1,094.40	OH
Laryngoscope Light Source (handle for C batteries)	60500	0	5	25	30	1	30	\$29.75	\$892.50	OH
Latex Gloves Sterile (Lg)	6515-01-149-8840		200	200	400	50	8	\$21.96	\$175.68	OH
Latex Gloves Sterile (Med)	6515-01-151-1790	0	200	200	400	50	8	\$15.80	\$126.40	OH
Latex Gloves Sterile (Xlg)	6515-01-149-8843	0	200	200	400	50	8	\$22.67	\$181.36	OH
Mask, Surgical, Disposable, with Face Shield (and eye shield)	NA	0	50	50	100	100	1	\$105.12	\$105.12	OH
Nas-Gastric Tube #16	NA	0	20	0	20	1	20	\$238.80	\$4,776.00	
Nasal Cannulas	6515-01-166-8099	0	20	50	70	1	70	\$0.45	\$31.50	OH
Nasopharyngeal Airways, 8.0mm ID, 10.5mm OD	NA	0	5	5	10	10	1	\$57.36	\$57.36	OH
Nasopharyngeal Airways, 6.0mm ID, 8.0mm OD	NA	0	5	5	10	10	1	\$57.36	\$57.36	OH
Needle, Disposable, 18G x 1.5"	6515-00-754-2834	0	100	100	200	100	2	\$3.27	\$6.54	OH
Needle, Disposable, 22G x 1"	6515-00-754-2835	0	100	100	200	100	2	\$2.74	\$5.48	OH
Needle, Disposable, 22G x 1.5"	6515-00-059-5782	0	100	100	200	100	2	\$2.62	\$5.24	OH
Needle, Disposable, 25G x 5/8"	6515-00-655-5751	0	100	100	200	100	2	\$3.64	\$7.28	OH
Obstetrical Kit, Emergency	NA	0	1	1	2	1	2	\$72.00	\$144.00	OH
Pressure Infuser (500 mL)	AD-500	0	12	0	12	1	12	\$298.80	\$3,585.60	O
SAM Splints	NA	0	12	12	24	12	2	\$202.32	\$404.64	OH
Sodium Chloride 0.9%, 500 mL, Plastic Bags	NA	0	96	48	144	24	6	\$16.42	\$98.52	OH
Sphygmomanometer, Set, Child	NA	0	6	6	12	1	12	\$10.50	\$126.00	OH

O – On-Scene Use
 H – Hospital Resupply
 HO – On-Scene or Hospital Resupply

Pharmaceutical Product List for Metropolitan Medical Strike Team

PRODUCT	PRODUCT CODE	TEAM MEMBER PERSONAL CACHE	IMMEDIATE ON- SCENE TEAM CACHE	SECONDARY CALL UP CACHE	TOTAL INVENTORY	UNIT ORDER SIZE (Package Size)	TOTAL UNITS TO ORDER	ESTIMATED UNIT COST	ESTIMATED PRODUCT COST	ANTICIPATED PRODUCT USE (On-Scene or Hospital Resupply)
Sphygmomanometer, Set, Infant	NA	0	6	6	12	1	12	\$11.82	\$141.84	OH
Sylets 10FR	NA	0	20	0	20	20	1	\$89.75	\$89.75	OH
Sylets 16FR	NA	0	20	0	20	20	1	\$89.75	\$89.75	OH
Syringe/Needle, Disposable, 20 g x1.6", 5-6 ml	6515-00-985-7183	0	100	100	200	100	2	\$20.62	\$41.24	OH
Syringe/Needle, Disposable, 3 ml, 21G x 1 1/2"	6515-00-462-7248	0	100	100	200	100	2	\$4.36	\$8.72	OH
Tape 1"	6510-01-060-6369	0	12	24	36	12	3	\$16.63	\$49.89	OH
Tape 2"	6510-01-095-9285	0	12	24	36	6	6	\$16.57	\$99.42	OH
Tape 3"	6510-01-060-6370	0	12	24	36	4	9	\$16.60	\$149.40	OH
Triage Tags	NA	0	500	0	500	50	10	\$12.81	\$128.10	OH
Tube, Endotracheal with cuff, 5.0mm	NA	0	5	5	10	10	1	\$38.82	\$38.82	OH
Tube, Endotracheal with cuff, 6.5mm	NA	0	5	5	10	10	1	\$38.82	\$38.82	OH
Tube, Endotracheal with cuff, 7.5mm	NA	0	5	5	10	10	1	\$38.82	\$38.82	OH
Tube, Endotracheal with cuff, 8.0mm	NA	0	5	5	10	10	1	\$38.82	\$38.82	OH
Tube, Endotracheal without Cuff, 2.0mm	NA	0	5	5	10	10	1	\$27.00	\$27.00	OH
Tube, Endotracheal without cuff, 3.0mm	NA	0	5	5	10	10	1	\$27.00	\$27.00	OH
Tube, Endotracheal without cuff, 4.0mm	NA	0	5	5	10	10	1	\$27.00	\$27.00	OH
TOTAL COST FOR THE MMST PHARMACEUTICALS									\$89,891.09	

O – On-Scene Use
 H – Hospital Resupply
 HO – On-Scene or Hospital Resupply

PERSONAL PROTECTIVE EQUIPMENT

PERSONAL PROTECTIVE EQUIPMENT:
Respirators

Equipment Type:

Negative Pressure, Full Facepiece Respirators

Make / Model:

3M “6000” Series and “7000” Series

Description:

These are tight-fitting, negative pressure respirators that utilize dual bayonet-mount filter cartridges. The lightweight, silicone rubber facepiece features a one-piece polycarbonate lens and a separate nose cup to reduce internal lens fogging.

Features / Benefits

- Large single lens for wide field of vision
- Easy to don and doff
- 6000 Series – Adaptable to dual airline system, fully elastic 4-point head harness
- 7000 Series – Adaptable to Powered Air Purifying Respirator (PAPR) or supplied air systems, fully elastic six-point head harness, integral speaking diaphragm

Specifications

Three sizes: Small, Medium, and Large

Weight

- 6000 Series – 14.5 oz.
- 7000 Series – 20.5 oz.

Accessories (available at extra cost)

- Spectacle kit
- Fit Test Kit with Bayonet-type Attachment Adapter
- Face Shield Cover
- Tinted Lens Cover
- 6000-series mask available as a component of the “Chem / Bio Response-Pak,” available through TriCon Environmental, Inc. (see below)

Approvals

- National Institute of Occupational Safety and Health (NIOSH) approvals:
 - Filter part # 2091 – P-100 particulate efficiency
 - Filter part # 60921 – Organic Vapor cartridge with P-100 particulate filter
 - Filter part # 60923 – Organic vapor, chlorine, hydrogen chloride and sulfur dioxide (escape only) or hydrogen fluoride with P-100 particulate filter
 - Filter part # 60926 – Organic vapor, chlorine, hydrogen chloride, chlorine dioxide, sulfur dioxide, hydrogen sulfide (escape only), ammonia/methylamine, or hydrogen fluoride cartridge with P-100 particulate filter
 - Lens meets requirements of American National Standards Institute (ANSI) Z87.1 – 1989 (Face and Eye Protection)

Manufacturer / Distributor

3M Occupational Health and Safety Division
St. Paul, MN 55133

TriCon Environmental, Inc.
Huntsville, AL

(800) 896-4223 / www.3m.com

(800) 854-4334 / www.tricon-env.com

6000 Series



7000 Series



**3M “6000” Series and “7000” Series
Negative Pressure, Full Facepiece Respirators**

Equipment Type:

Negative Pressure, Full Facepiece Respirators

Make / Model:

3M “SGE-400”

Description:

This is a tight-fitting, negative pressure respirator utilizing a single standard North Atlantic Treaty Organization (NATO)-thread pattern filter cartridge. The lightweight, silicone rubber facepiece features a one-piece polycarbonate lens and a separate nose cup to reduce internal lens fogging.

Features / Benefits

- Single lens for wide field of vision, allows for ready use of night vision aids
- Easy to don and doff
- Filter canister may be mounted on either cheek, or in the center of the mask
- Accepts Military C2A1 Nuclear, Biological, and/or Chemical (NBC) Filter canister
- Fully elastic six-point head harness

Specifications

One size

Weight

2 lbs. (approx.)

Accessories (available at extra cost)

- Spectacle kit
- Fit Test Kit with Bayonet-type Attachment Adapter
- Carry bag

Approvals

- NIOSH approved with the CP3N filter cartridge for CN riot control agent and P100 particulate efficiency
- Lens meets requirements of ANSI Z87.1 – 1989 (Face and Eye Protection)

Manufacturer / Distributor

3M Occupational Health and Safety Division

St. Paul, MN 55133

(800) 896-4223

www.3m.com

SGE-



**3M “SGE-400”
Negative Pressure, Full Facepiece Respirator**

Equipment Type:

Negative Pressure Full Facepiece Respirators

Make / Model:

MSA “Millennium Chemical-Biological Mask” and “Advantage 1000 CBA-RCA Gas Mask”

Description:

These are tight-fitting, negative pressure respirators, which utilize single or dual filter cartridges. Both masks feature a flexible, 1-piece polyurethane lens bonded to a Hycar rubber facepiece, fully elastic six-point head harness, separate noseclip to reduce internal lens fogging, and a mechanical speaking diaphragm.

Features / Benefits

- Lightweight
- Large single lens allows wide field of vision
- Portable, easy to don and doff

Specifications

- “Millennium Chemical and/or Biological (C/B) Mask” uses standard NATO-thread filter canister, and incorporates an integral drinking tube for fluid intake in contaminated environments

Weight

- Millennium – 1.45 lbs. (approx.)
- Advantage 1000 – 1.25 lbs. (approx.)

Accessories (available at extra cost)

- Electrostatic Precipitator (ESP) Communications System: one-piece self-contained electronic speech projection device
- Polycarbonate Lens Outserts
- Spectacle kit
- Butyl-coated Nylon Hood (Millennium only)
- Black vinyl carrier

Approvals

- NIOSH approved with P-100 particulate efficiency rating for protection against CN riot-control agents
- “CBA-RCA” Filter Canister tested against nerve (GB), and cyanide (AC, CK) war agents. See accompanying chart

Manufacturer / Distributor

Mine Safety Appliances, Inc.
Corporate Headquarters
Pittsburgh, PA 15230
(800) MSA-2222
www.MSAnet.com

Millennium



Advantage 1000



**MSA “Millennium Chemical-Biological Mask” and
“Advantage 1000 CBA-RCA Gas Mask”
Negative Pressure, Full Facepiece Respirators**

ESP Communications System



Performance of Millennium/Advantage 1000 CBA-RCA Canister

Performance of Millennium/Advantage 1000 CBA-RCA Canister Against Various Chemical Agents

MSA's Millennium/Advantage 1000 CBA-RCA Gas Mask Canister has been tested to determine how effectively it can protect an individual against a variety of chemical agents (in accordance with CASHPAC specified on page 3).

This canister contains a pleated high-efficiency (HEPA) filter to remove aerosols and solid particulates, and an impregnated activated carbon bed to adsorb (filter out) gases and liquid vapors. The HEPA filter removes nearly all of the tear gas agents from the inspired airstream. Any small amount of tear gas agent that passes through the filter is adsorbed by the impregnated activated carbon. Sarin (GB), DMMP (a Sarin simulant), and HCN are also effectively adsorbed by the carbon bed.

The challenge agents are listed in column 1; testing conditions and requirements in columns 2, 3, and 4; and test results in the last column. The Flow Rate for all challenge agents was 64 ± 1 Lpm, except for CK, which was 32 Lpm. Temperature was 25 ± 3 degrees Centigrade.

MSA Millennium/Advantage 1000 CBA-RCA Canister Testing Conditions and Results

Challenge Agent	Challenge Concentration, mg/m ³	Relative Humidity, %	Minimum Service Time Requirement	RESULTS: Service Time until Break, in minutes
Dimethyl Methylphosphonate (DMMP) (Sarin Simulant) <i>Nerve agent</i>	1000 \pm 70	25 \pm 0.5	60 minutes until a 0.04 mg/m ³ break	>63
Sarin (GB) <i>Nerve agent</i>	1000 \pm 70	25 \pm 0.5	60 minutes until a 0.04 mg/m ³ break	>70
Hydrogen Cyanide (AC) <i>Blood agent</i>	550 \pm 25	50 \pm 3	30 minutes until a 5 mg/m ³ break	>40
ICN after Equilibration for 6 hours @ 25% RH	550 \pm 25	50 \pm 3	30 minutes until a 5 mg/m ³ break	>40
HCN after Equilibration for 6 hours @ 85% RH	550 \pm 25	50 \pm 3	30 minutes until a 5 mg/m ³ break	>40
ortho-Chlorobenzylidene Malononitrile (CS) Tear Gas <i>Irritant</i>	23 \pm 8	50 \pm 3	480 minutes until a 0.4 mg/m ³ break	>480
CS after Equilibration for 6 hours @ 25% RH	23 \pm 8	25 \pm 3	480 minutes until a 0.4 mg/m ³ break	>480
CS after Equilibration for 6 hours @ 85% RH	23 \pm 8	85 \pm 3	480 minutes until a 0.4 mg/m ³ break	>480
α -Chloroacetophenone (CN) Tear Gas <i>Irritant</i>	101 \pm 6	50 \pm 3	480 minutes until a 0.3 mg/m ³ break	>480
CN after Equilibration for 6 hours @ 25% RH	101 \pm 6	25 \pm 3	480 minutes until a 0.3 mg/m ³ break	>480
CN after Equilibration for 6 hours @ 85% RH	101 \pm 6	85 \pm 3	480 minutes until a 0.3 mg/m ³ break	>480
Oleoresin capsicum (C ₁₈ H ₂₇ NO ₃), the "active" ingredient of the OC tear gas <i>Irritant</i>	0.036	50 \pm 3	None	>480 until a 0.001 mg/m ³ break
Cyanogen Chloride (CK) <i>Blood agent</i>	Approx. 4000	80	None	5 to 9 until an 8 mg/m ³ break

Note 1. CK testing was performed according to Mil-C-51500 by Edgewood Arsenal.

Note 2. GB testing was performed by TNO Netherlands.

Equipment Type:

Negative Pressure, Full Facepiece Respirators

Make / Model:

MSA “Phalanx Alpha RCA Gas Mask”

Description:

This is a tight-fitting, negative pressure respirator utilizing a single filter cartridge that may be mounted on either cheek. The mask comprises a single polycarbonate lens mounted in a EPDM-rubber facepiece, separate nosecup to reduce internal lens fogging, integrated mechanical speaking diaphragm, and a fully elastic five-point head harness.

Features / Benefits

- Large, coated lens resists scratching, allows wide field of vision
- Easy to don and doff
- Ease of disassembly for cleaning and parts replacement
- Compact size for use with visored helmets

Specifications

N/A

Weight

1.6 lbs. (approx.)

Accessories (available at extra cost)

- ESP Communications System: one-piece self-contained electronic speech projection device
- Polycarbonate Lens Outserts
- Spectacle kit

Approvals

- NIOSH approved with P-100 particulate efficiency rating for protection against CN riot-control agents
- “CBA-RCA” Filter Canister tested against nerve (GB), and cyanide (AC, CK) war agents, see accompanying chart

Manufacturer / Distributor

Mine Safety Appliances, Inc.
Corporate Headquarters
Pittsburgh, PA 15230
(800) MSA-2222
www.MSAnet.com

Phalan



**MSA “Phalanx Alpha RCA Gas Mask”
Negative Pressure, Full Facepiece Respirator**

ESP Communications System



Equipment Type:

Negative Pressure, Full Facepiece Respirators

Make / Model:

GIAT–CenTech Group, Respiratory Protection Kit (RPK)-1

Description:

RPK-1 is comprised of eight “ARF-C” full face, negative pressure respirators, 16 ABK/NBC filter cartridges, and eight each of the following: Carrying bags; cleaning sets; optical frames; carrying harnesses. The ARF-C is a tight-fitting, negative pressure respirator comprised of a single polycarbonate lens mounted in a polyurethane facepiece, single, center-mount filter cartridge, separate nose cup to reduce internal lens fogging, integrated mechanical speaking diaphragm, and a fully elastic six-point head harness.

Features / Benefits

- Modular Kit approach simplifies acquisition, storage, accountability, and deployment
- Large lens provides wide field of vision
- Easy to don and doff

Specifications

N/A

Weight

1.25 lbs. (approx.)

Accessories (available at extra cost)

- External, one-piece self-contained electronic speech projection device

Approvals

- European EN-316 Standard
- NATO Standard

Manufacturer / Distributor

GIAT Industries / CenTech Group
Arlington, VA 22203
(703) 525-4444

ARF-C



RPK-1

**ARF-C Negative Pressure, Full Facepiece Respirator and GIAT–CenTech Group,
Respiratory Protection Kit (RPK)-1**

Equipment Type:

Powered Air Purifying Respirator (PAPR)

Make / Model:

3M, Breathe-Easy 7 (BE-7) Rapid Response Powered Air System (RRPAS)

Description:

This is a high filtration, powered, air purifying respirator. In the RRPAS configuration the system components include: Cordura-nylon carry bag, which converts to a vest supporting the back mounted, Breathe-Easy Turbo Unit Filter Pack with three filter canisters; a rechargeable Ni-Cd battery; and the BE-7 neoprene rubber, tight fitting, full face mask with breathing tube and clamps.

Features / Benefits

- Continuous flow of filtered air reduces pulmonary stress
- Easy to don and doff
- Large front mounted pockets on the vest, supports storage of other gear
- Velcro™ fastened panels permit wearer identification
- Tight fitting BE-7 face piece provides negative pressure protection in the event of battery failure

Specifications

- Battery Life/ Re-chargeable Ni-Cd – up to 8 hours continuous use, 4-hour recharge time, up to 500 discharge / recharge cycles
- Non-rechargeable lithium battery – 12-hours of continuous use, 10-year shelf life
- Positive-pressure airflow @ 4 cfm minimum
- Adjustable head harness

Weight

10 lbs. (approx.)

Accessories (available at extra cost)

- Battery charger – Fully automatic, operates on 120v-60Hz, three sizes available
- Single unit, 5-outlet unit and 10-outlet unit
- Spectacle kit

Approvals

- Facemask meets requirements of ANSI Z87.1-1979 (Eye and Face Protection)
- NIOSH approved with the AP-3 and AEP-3 Filter Cartridge

Manufacturer / Distributor

3M Occupational Health and Safety Division
St. Paul, MN 55133
(800) 896-4223
www.3m.com



**3M, Breathe-Easy 7 (BE-7) Rapid Response Powered Air System (RRPAS),
Powered Air Purifying Respirator (PAPR)**

Equipment Type:

Powered Air Purifying Respirator (PAPR)

Make / Model:

3M, Breathe-Easy 10 (BE-10) Positive-Pressure, Butyl Hood Configuration

Description:

This is a high filtration, powered, air purifying respirator. In the BE-10 configuration the system components include: The belt mounted Breathe-Easy Turbo Unit Filter Pack with three filter canisters, a rechargeable Ni-Cd or non-rechargeable Lithium battery, the BE-10 butyl rubber hood with elasticized neck dam with breathing tube and clamps.

Features / Benefits

- Continuous flow of filtered air reduces face-piece fogging and pulmonary stress
- Easy to don and doff
- Loose-fitting hood accommodates glasses and facial hair
- Butyl rubber Hood/Cape provides liquid splash protection

Specifications

- Battery Life / Rechargeable Ni-Cd – up to 8 hours of continuous use, 4-hour recharge time, up to 500 discharge / recharge cycles
- Non-rechargeable lithium – up to 12 hours of continuous use, 10-year shelf life
- Positive-pressure airflow @ 6 cfm
- Elasticized headband

Weight

8 lbs. (approx.)

Accessories (available at extra cost)

- Battery charger – Fully automatic, operates on 120v-60Hz, three sizes available
- Single unit, 5-outlet unit and 10-outlet unit

Approvals

- Butyl rubber hood meets military standard MIL-C-51251A for resistance to chemical and biological warfare agents
- U.S. Army approved for Chemical Stockpile Emergency Preparedness Program (CSEPP) responders
- NIOSH / P100 particulate efficiency approvals with the AP-3 and AEP-3 Filter Cartridges

Manufacturer / Distributor

3M Occupational Health and Safety Division
St. Paul, MN 55133
(800) 896-4223
www.3m.com



BE-10

**3M, Breath-Easy 10 (BE-10) Positive-Pressure, Butyl Hood Configuration,
Powered Air Purifying Respirator (PAPR)**

Equipment Type:

Powered Air Purifying Respirator (PAPR)

Make / Model:

MSA OptimAir 6A

Description:

This is a belt mounted, high filtration, powered air purifying respirator. The system components include a nylon mounting belt supporting the motor/blower module with rechargeable Ni-Cd battery, dual-OptiFilter cartridges, and Hycar rubber, Ultravue Facepiece with breathing tube.

Features / Benefits

- Continuous flow of filtered air reduces pulmonary stress, enhances wearer comfort
- Portable, easy to don and doff
- Tight fitting UltraView Facepiece provides negative pressure protection in the event of battery failure

Specifications

- Battery Life (Ni-Cd) – 8 hours of continuous use, 6- to 16-hour recharge time, 250 discharge / recharge cycles
- Positive-pressure airflow at 4 cfm minimum
- Adjustable head harness

Weight

- 7.4 lbs. (approx.) with NiCd battery
- 5.4 lbs. (approx.) with Lithium battery

Accessories (available at extra cost)

- Battery charger – Fully automatic, operates on 120v-60Hz, Single-Unit, or Single-Unit, Dual Rate
- Disposable lithium battery with 10-year shelf life and 12-hour service life
- Spectacle kit

Approvals

N/A

Manufacturer / Distributor

Mine Safety Appliances, Inc.
Corporate Headquarters
Pittsburgh, PA 15230
(800) MSA-2222
www.MSAnet.com



**MSA OptimAir 6A,
Powered Air Purifying Respirator (PAPR)**

Equipment Type:

Powered Air Purifying Respirator (PAPR)

Make / Model:

GIAT – CenTech Group, Respiratory Protection Kits (RPK) 1 and 2

Description:

RPK-1 is comprised of eight “ARF-C” full face, negative pressure respirators, 16 ABK/NBC filter cartridges, and eight each of the following: carrying bags; cleaning sets; optical frames; harnesses. RPK-2 is comprised of 16 ABK/NBC filter cartridges, 4 dual-filter “CASU C420” single speed air distribution units, 4 air delivery hoses, 4 carrying belts and harnesses, and 8 lithium batteries. The PAPR system is comprised of the “ARF-C” respirator in combination with a “CASU C420” unit with breathing hose, carrying belt/ harness, lithium battery, and two ABK/NBC filter cartridges.

Features / Benefits

- Modular Kit approach simplifies acquisition, storage, accountability, and deployment
- Continuous flow of filtered air reduces pulmonary stress, enhances wearer comfort
- Portable, easy to don and doff
- Tight fitting facepiece provides negative pressure protection in the event of battery failure

Specifications

- Battery Life (Lithium) – up to 12 hours of continuous use
- Positive-pressure airflow @ 115 lpm (4 cfm) minimum
- Adjustable head harness

Weight

Individual PAPR System – 10 lbs. (approx.)

Accessories (available at extra cost)

- Contact manufacturer

Approvals

- NATO Standard xxxxxxxx for ARF-C and CASU C420
- NIOSH approval for air flow and P3 particulate efficiency pending

Manufacturer / Distributor

GIAT Industries / CenTech Group
Arlington, VA 22203
(703) 525-4444

ARF-C



RPK-1



CASU C420



RPK-2

**GIAT – CenTech Group, Respiratory Protection Kits (RPKs) 1 and 2,
Powered Air Purifying Respirator (PAPR)**

Equipment Type:

Self-Contained Breathing Apparatus (SCBA)

Make / Model:

Bio-Marine/Neutronics, "Bio-Pack 240" Re-Breather

Description:

The Bio-Pak 240 SCBA is a semi-closed circuit system. The critical components are housed in a high impact Noryl Shell with harness assembly, which distributes the weight of the unit across the back and hips of the wearer. The breathing gas is circulated via a set of neoprene hoses and tight fitting, silicone rubber, positive-pressure face piece with head harness.

Features / Benefits

- Positive-pressure design combined with cooled breathing gas reduces pulmonary stress
- Metal threaded hose connections ensures durability

Specifications

- 21-cubic ft. capacity, composite oxygen cylinder rated @ 3,000 psi
- 4-hour duration @ constant flow rate of 1.78 liters per minute
- Brass tubing for high-pressure oxygen lines for added safety
- Audible alarm @ 20 to 25 percent remaining service life

Color

Gray

Size

N/A

Weight

39 lbs. fully charged with mask, hoses, and coolant

Shelf Life

All test and repair @ field / user level

Accessories

- Molded carrying case
- Spare oxygen bottles
- Lime Pak refill (44 gal. drum)
- Kevlar harness and straps available

Approvals

NIOSH / MSHA Certification TC-13F-185 and TC-13F-206 (use in IDLH atmospheres and low temperature / +15 °F)

Manufacturer / Distributor

BioMarine

Exton, PA 19341

(610) 524-8800

Bio-Pack



**Bio-Marine/Neutronics, “Bio-Pack 240” Re-Breather,
Self-Contained Breathing Apparatus (SCBA)**

BIOPAK 240

A Breakthrough in Technology

Biomarine engineers have taken the closed-circuit principle to its most advanced state with the BioPak 240 four-hour positive-pressure self-contained breathing apparatus. The benefits of increased duration, low usage and maintenance cost, and greater protection create an unbeatable combination for mine rescue teams, hazardous materials teams and industrial workers who have to be in potentially dangerous atmospheres for extended periods of time.



BioPak 240 Development

Biomarine's resources were applied toward developing a product that addressed some of the shortcomings of other extended-duration SCBA. Mine rescue teams were canvassed for suggestions, and the result was a unit that meets the needs of the user.

Protection—The Real Reason for SCBA

While no breathing apparatus can absolutely guarantee that contaminants will not enter the mask, the addition of a slight pressure in the unit considerably raises the odds in the user's favor. By maintaining a positive pressure in the system, normal leakage should be outward, not inward. Protection factor testing has shown increases in safety of as much as 200 times the protection afforded by negative pressure equipment. The BioPak 240 can be used in atmospheres immediately dangerous to life or health (IDLH).

Why Choose a BioPak 240?

• LONG DURATION

Regardless of the user's size or physical activity, the BioPak 240 delivers at least four hours duration.

• EASE OF USE AND COMFORT

The BioPak 240 is simple to use. All controls and displays are easily accessible. The unit is extremely comfortable—the weight is carried on the user's hips instead of on the shoulders. The well-fitting silicone facepiece with built-in speaking diaphragm provides a durable, effective seal. Breathing resistance is low, reducing the wearer's fatigue.



PHOTO COURTESY OF ZINC CORP. OF AMERICA

• COOLING SYSTEM

All closed-circuit SCBA generate or retain heat. The BioPak 240 incorporates a built-in "blue ice" coolant canister to keep the breathing gas temperature at a comfortable level. It's about a 30-second operation—just install the frozen canister into the unit and it's ready to go. Other than normal cleaning, the coolant canister does not require maintenance; just refreeze for the next use.



• LOW USAGE COST

The LimePak CO₂ absorbent is provided in bulk, reducing the per-use cost of the BioPak 240 to almost one-eighth the cost of other extended-duration units. There is no need for a separate training canister—one canister and one type of absorbent is used for everything.



• CLEAR VISION

The BioPak 240 incorporates a Thermo-Clear insert for clear, fog-free vision. Just apply the Final Solution anti-fog cloth to the insert, and forget about fogging for four hours.



• EASE OF MAINTENANCE

Unlike other extended-duration SCBA, the BioPak 240 requires virtually no preparation and set-up time. All repairs and testing can be done in the field, with a minimum of training. An optional videotape describes tests and procedures necessary to keep the BioPak 240 in perfect operating condition.



We Support You

If a disaster occurs (for example, a mine explosion), Biomarine maintains an emergency supply of units, parts and accessories to adequately supply the rescue effort. We're there when it counts.



PHOTO COURTESY OF ZINC CORP. OF AMERICA

H66-23

PERSONAL PROTECTIVE EQUIPMENT:
NBC Protective Suits

Equipment Type:

Permeable Chemical Protective Clothing

Make / Model:

LANX Fabric Systems, Chemical Protective Overgarments and Undergarments

Description:

These are military-style, air-permeable, chemical protective garments that incorporate adsorption technology through the use of polymerically encapsulated, activated carbon to provide protection against chemical warfare agents. The proprietary fabric can be tailored into any clothing configuration, including gloves and boot-liners, in a variety of weights, to provide varying degrees of chemical protection. The fabric can be combined with a variety of shell fabrics, including nylon, cotton, NYCO-blends, and aramids, to provide liquid, vapor and aerosol protection as well as flame resistance.

Features / Benefits

- Lowbulk, air-permeable fabric reduces heat stress
- Stretchable fabric for better fit and enhanced wearer comfort
- Launderable

Specifications

- **Fabric Weight** – 10 oz./yd.²
- **Fabric Thickness** – 0.06 in.
- Breakthrough times for specified agents:
 - Mustard (H) Greater than 48 hours
 - Lewisite (L) Greater than 24 hours
 - Sarin (GB) Greater than 24 hours

Size

- S, M, L, and XL
- User specifications

Shelf Life

N/A

Accessories

None

Approvals

Type 1 fabric meets Military Specification MIL-U-44435, for Chemical Protective Undergarments (CPU)

Manufacturer / Distributor

LANX Fabric Systems
Newark, DE
(302) 451-3060



Overgarments



Undergarments

**LANX Fabric Systems, Chemical Protective Overgarments and Undergarments,
Permeable Chemical Protective Clothing**

Equipment Type:

Permeable Chemical Protective Clothing

Make / Model:

GIAT-CenTech Group, “Tactical Operations Multipurpose Protective Suit” (TOMPS)

Description:

This is a military-style two-piece, front-closing, hooded chemical protective suit. The suit incorporates physical filtering, and adsorption technology through the inner layer of activated-carbon-impregnated foam to provide protection against liquid, vapor, and aerosol NBC agents. A complete ensemble requires the use of carbon-foam socks, appropriate footwear, butyl-rubber (or equivalent) outer gloves, and appropriate respiratory protection.

Features / Benefits

- Permeable, lightweight fabric reduces heat stress
- Cotton / Polyester blend outer fabric is water, oil resistant, and flame-resistant
- Available in modular kit form, for up to eight personnel per kit

Specifications

- **Fabric Weight** – 190 gr/m²
- **Suit Weight** – 5 lbs. (approx.)
- Breakthrough times for specified agents:
 - Mustard (H) Greater than 24 hours @ 10 g/m² challenge concentration

Size

Small, Medium, Large, and X-Large

Shelf Life

- 10 years in original packaging
- 30-days cumulative wear outside of contaminated area

Accessories

Modular Kits include util gloves and chemical protective socks

Approvals

- European Standard EN 468, Protective Clothing for use against liquid chemicals
- NATO approval for chemical warfare (C/W) protection, NSN 8415-99-001-9888/92

Manufacturer / Distributor

GIAT Industries / CenTech Group
Arlington, VA 22203
(703) 525-4444

TOMPS Suit



**GIAT–CenTech Group, “Tactical Operations Multipurpose Protective Suit” (TOMPS),
Permeable Chemical Protective Clothing**

Equipment Type:

Impermeable Chemical Protective Clothing

Make / Model:

Remploy / ADI Technologies, "TYVEK- F" Chemical Decontamination Suit

Description:

This is a military-style one-piece, front-closing, hooded chemical protective overgarment. The seams and fabric provide barrier protection against C/B warfare agents, and radioactive particulates. The barrier properties of the suit are not altered by exposure to standard chemical decontamination emulsions.

Features / Benefits

- Lightweight reduces risk of body overheating
- Non-woven, polymer coated fabric offers superior strength and abrasion resistance
- Low cost, disposable after use

Specifications

- **Fabric Weight** – 110 gr/m²
- **Suit Weight** – less than 1 lb.
- Permeation resistance, breakthrough times for specified agents:
 - Mustard (H) Greater than 48 hours
 - Lewisite (L) Greater than 24 hours
 - Sarin (GB) Greater than 24 hours

Size

Small, Medium, Large, and X-Large

Shelf Life

10 years in original vacuum pack

Accessories

None

Approvals

- European Standard EN 468, Protective Clothing for use against liquid chemicals
- NATO approval for C/W protection, NSN 8415-99-001-9888/92
- U.S. Army Technical Escort Unit (TEU) for emergency response to C/W agent incidents

Manufacturer / Distributor

Remploy
United Kingdom

ADI Technologies Inc. (U.S. Distributor)
McLean, VA 22101
(703) 734-9626



H50-00

**Remploy / ADI Technologies, “TYVEK-F” Chemical Decontamination Suite,
Impermeable Chemical Protective Clothing**

Equipment Type:

Impermeable Chemical Protective Clothing

Make / Model:

Kappler CPF-3 Protective Overgarments

Description:

These are chemical protective suits, available in a wide range of styles. The seams and fabric provide barrier protection against C/B warfare agents, and radioactive particulates. The barrier properties of the suit are not altered by exposure to standard chemical decontamination emulsions. The CPF-3, one-piece suit with attached hood and sock boots is appropriate for use as the outer garment of a limited-use Level “B” or “C” ensemble.

Features / Benefits

- Multi-layer barrier film laminated to a polypropylene substrate offers superior strength and abrasion resistance
- Wide variety of styles available
- Choice of seam styles available
- Economical

Specifications

- **Fabric Weight** – 4.6 oz. per square yd.
- **Suit Weight** – 1.2 lbs. (approx. for one-piece hooded suit with sock boots)
- Permeation resistance / breakthrough times for specified agents:
 - Mustard (HD), Sarin (GB), Soman (GD), VX – Greater than 2 hours

Shelf Life

5 years in original packaging

Color

Tan

Size

Small, Medium, Large, and X-Large

Accessories

Available as a component of the “Chem / Bio Response-Pak,” available through TriCon Environmental, Inc. (see below)

Approvals

Chemical Warfare Agent permeation resistance testing in accordance with Military Standard (MIL-STD)-282, test methods 204.1.1, 206.1.2, and T-208

Manufacturer / Vendor

Kappler Protective Apparel and Fabrics
Guntersville, AL
(800) 633-2410

TriCon Environmental, Inc.
Huntsville, AL
(800) 854-4334

CPF-3 Protective Overgarments



**Kappler CPF-3 Protective Overgarment,
Impermeable Chemical Protective Clothing**

Kappler Technical Services

1-800-633-2410

Chemical Warfare Agent Data vs. Chemical Protective Fabric (CPF) 3

Chemical Warfare Agent	Breakthrough Time	Breakthrough Criteria	Test Method
Bis (2-chloroethyl) sulfide (Mustard: HD)	> 2 hours	4.0 ug/cm ²	204.1.1
Isopropyl methylfluorophosphate (Sarin: GB)	> 2 hours	1.25 ug/cm ²	206.1.2
Pinacolyl methylfluorophosphate (Soman: GD)	> 2 hours	0.5 ug/cm ²	T-208
O-ethyl S-(2-diisopropylaminoethyl) methylphosphonothiolate (Nerve: VX)	> 2 hours	0.5 ug/cm ²	T-208

Testing was conducted at Battelle Labs Inc. in accordance with MIL-STD-282, Filter Units. Protective Clothing, Gas-Mask Components, and Related Products: Performance-Test Methods.

WARNING: There are uses, environments, and chemicals for which these garments and/or fabrics are unsuitable. It is the responsibility of the user to review available data and verify that the garment and/or fabric is appropriate for the intended use and meets all specified Government and industry standards. **CAUTION:** Do not use for fire protection. Avoid open flame or intense heat.

Equipment Type:

Impermeable Chemical Protective Clothing

Make / Model:

Kappler NFPA 1991-Compliant, “Responder” Level “A” Suits (Limited Use)

Description:

These are one-piece, vapor-proof, fully encapsulating suits, available in front or rear entry style, with flat or expanded style back and include an aluminized fiberglass overcover. The suits incorporate covered exhaust valves, integral sock boots, and an internal waist belt. The NFPA 1991-compliant suits offer barrier protection against C/B warfare agents, and radioactive particulates combined with radiant heat protection.

Features / Benefits

Sewn and strapped seams, 48-in. gas-tight zipper with double overlap storm flaps, hook and loop closures, Polished 40-mil. PVC view window, three-layer glove set (Viton, Silvershield, and Kevlar knit)

Specifications / Physical Properties: (Kappler Disclaimer – “These are to be considered physical properties and **should not be construed** as specifications”)

- **Fabric Thickness:** 21 mil.
- **Fabric Weight:** 8.5 oz. per square yd.
- **Suit Weight:** 12.5 lbs. (approx., with aluminized fiberglass overcover)
- Permeation resistance / breakthrough times for specified agents:
 - See accompanying chart

Shelf Life

Indefinite, contingent on periodic pressure test and visual inspection results

Color

Blue

Size

XS, S, M, L, and XL to 4XL

Accessories

Pressure Test Kit, Air Supply Pass-thru fittings

Approvals

- Chemical Warfare Agent permeation resistance testing in accordance with MIL-STD-282, test methods T-208 and T-209
- National Fire Protection Association (NFPA) 1991, 1994 Edition compliant

Manufacturer / Distributor

Kappler Protective Apparel and Fabrics
Guntersville, AL 35976
(800) 633-2410

Responder Level A



**Kappler NFPA 1991-Compliant, “Responder” Level “A” Suit (Limited Use),
Impermeable Chemical Protective Clothing**

Kappler Technical Services

1-800-633-2410

Chemical Warfare Agent Data vs. Responder Fabric and Double Taped Seams

Chemical Warfare Agent	Breakthrough Time	Breakthrough Criteria	Test Method
Bis (2-chloroethyl) sulfide (Mustard: HD)	>480 minutes	0.5 ug/cm ²	T-209
Isopropyl methylfluorophosphate (Sarin: GB)	>480 minutes	0.5 ug/cm ²	T-208
Pinacolyl methylfluorophosphate (Soman: GD)	>480 minutes	0.5 ug/cm ²	T-208
Chlorovinylarsinedichloride (Lewisite: L)	>480 minutes	0.5 ug/cm ²	T-209
O-ethyl S-(2-diisopropylaminoethyl) methylphosphonothiolate (Nerve: VX)	>480 minutes	0.05 ng/cm ²	T-208

Testing was conducted at Battelle Labs Inc. in accordance with MIL-STD-282, Filter Units. Protective Clothing, Gas-Mask Components, and Related Products: Performance-Test Methods.

WARNING: There are uses, environments, and chemicals for which these garments and/or fabrics are unsuitable. It is the responsibility of the user to review available data and verify that the garment and/or fabric is appropriate for the intended use and meets all specified Government and industry standards. **CAUTION:** Do not use for fire protection. Avoid open flame or intense heat.

Equipment Type:

Impermeable Chemical Protective Clothing

Make / Model:

Kappler “Responder Plus” Level “A” Suit (Limited Use)

Description:

This is a one-piece, vapor-proof, fully encapsulating suit available in front or rear entry style, with flat or expanded style back. The suit incorporates covered exhaust valves, integral sock boots, and an internal waist belt. The suit fabric offers broad chemical hold-out with high abrasion resistance providing barrier protection against C/B warfare agents, and radioactive particulates.

Features / Benefits

- Soft-feel fabric enhances wearer comfort
- Sewn and strapped seams
- 48-in. gas-tight zipper with double overlap storm flaps, hook and loop closures
- Polished 40 mil. PVC view window
- Detachable Butyl gloves

Specifications / Physical Properties: (Kappler Disclaimer – “These are to be considered physical properties and **should not be construed** as specifications”)

- **Fabric Thickness:** 29.8 mil.
- **Fabric Weight:** 9.6 oz. per square yd.
- **Suit Weight:** 8 lbs. (approx.)
- Permeation resistance / breakthrough times for specified agents:
 - See accompanying chart
- **Shelf Life:**
 - Indefinite, contingent on periodic pressure test and visual inspection results

Color

Hi-visibility orange

Size

XS, S, M, L, and XL to 4XL

Accessories

Pressure Test Kit, Air Supply Pass-Thru fittings

Approvals

- Chemical Warfare Agent permeation resistance testing in accordance with MIL-STD-282, test methods T-208 and T-209
- American Society for Testing and Materials (ASTM) F1001 Liquid and Gaseous Chemical Test Battery

Manufacturer / Distributor

Kappler Protective Apparel and Fabrics

Guntersville, AL 35976

(800) 633-2410

Equipment Type:

Impermeable Chemical Protective Clothing

Make / Model:

Kappler, “Responder Climate System Monitoring (CSM)” Level “A” Suit (Limited Use)

Description:

This is a one-piece, vapor-proof, fully encapsulating suit, available in front or rear entry style, with flat or expanded style back. The suit incorporates covered exhaust valves, integral sock boots, and an internal waist belt. The suit fabric offers broad chemical hold-out with high abrasion resistance providing barrier protection against C/B warfare agents, and radioactive particulates.

Features / Benefits

- 48-in. gas-tight zipper with double overlap storm flaps, hook, and loop closures
- Polished 40-mil. Polytron Verification Configuration (PVC) view window
- Sewn and strapped seams
- Detachable Butyl gloves

Specifications / Physical Properties: (Kappler Disclaimer – “These are to be considered physical properties and **should not be construed** as specifications”)

- **Fabric Thickness:** 21 mil.
- **Fabric Weight:** 8.5 oz. per square yd.
- **Suit Weight:** 7 lbs. (approx.)
- Permeation resistance / breakthrough times for specified agents:
 - **See accompanying chart**

Color

Tan

Size

XS, S, M, L, and XL to 4XL

Shelf Life

Indefinite – contingent on periodic pressure test, and visual inspection results

Accessories

Pressure Test Kit; Air Supply Pass-Thru Fittings

Approvals

- Chemical Warfare Agent permeation resistance testing in accordance with MIL-STD-282, test methods T-208 and T-209
- ASTM F1001 Liquid and Gaseous Chemical Test Battery

Manufacturer

Kappler Protective Apparel and Fabrics
Guntersville, AL 35976
(800) 633-2410

Responder



**Kappler, “Responder CSM” Level “A” Suit (Limited Use),
Impermeable Chemical Protective Clothing**

Kappler Technical Services

1-800-633-2410

Chemical Warfare Agent Data vs. Responder Fabric and Double Taped Seams

Chemical Warfare Agent	Breakthrough Time	Breakthrough Criteria	Test Method
Bis (2-chloroethyl) sulfide (Mustard: HD)	>480 minutes	0.5 ug/cm ²	T-209
Isopropyl methylfluorophosphate (Sarin: GB)	>480 minutes	0.5 ug/cm ²	T-208
Pinacolyl methylfluorophosphate (Soman: GD)	>480 minutes	0.5 ug/cm ²	T-208
Chlorovinylarsinedichloride (Lewisite: L)	>480 minutes	0.5 ug/cm ²	T-209
O-ethyl S-(2-diisopropylaminoethyl) methylphosphonothiolate (Nerve: VX)	>480 minutes	0.05 ng/cm ²	T-208

Testing was conducted at Battelle Labs Inc. in accordance with MIL-STD-282, Filter Units. Protective Clothing, Gas-Mask Components, and Related Products: Performance-Test Methods.

WARNING: There are uses, environments, and chemicals for which these garments and/or fabrics are unsuitable. It is the responsibility of the user to review available data and verify that the garment and/or fabric is appropriate for the intended use and meets all specified Government and industry standards. **CAUTION:** Do not use for fire protection. Avoid open flame or intense heat.

Equipment Type:

Impermeable Chemical Protective Clothing (Limited Use)

Make / Model:

Manufactured from Du Pont “TYCHEM 9400” and “TYCHEM 10,000” fabric

Description:

TYCHEM 9400 and 10,000 fabric is non-woven, spunbonded olefin. These fabrics offer high abrasion resistance, combined with high levels of impermeability to CW agents, and provide barrier protection against biological warfare agents and radioactive particulates. CPC manufactured from these fabrics offer high levels of ‘limited-use’ protection, as a Level “A,” “B,” or “C” overgarment.

Features / Benefits

- Non-Woven, spun-bonded, polymer coated fabric offers superior strength and abrasion resistance
- High visibility color
- Economical (compared to reuseable suits)

Specifications

- **Fabric Weight / Thickness / Color:**
 - TYCHEM 9400 – 6.1 oz. per square yd. / 17 mils. / Yellow
 - TYCHEM 10,000 – 9.5 oz. per square yd. / 29 mils. / High Visibility, Lime Yellow
- **Permeation resistance / breakthrough times for specified agents:**
 - Fabric only
 - See accompanying chart

Size

N/A

Shelf Life

5 years

Accessories

N/A

Approvals

- Meets all fabric requirements under NFPA 1993
- U.S. MIL-STD-282, Method T-209, Protocols DN3 and DN4 for HD and L; Method T-208, Protocols DN5 and DN6 for GA, GB, GD, and VX (revised May 1997)

Manufacturer / Distributor

DuPont Corporation
Wilmington, DE
(800) 448-9835

Chemical Warfare Agent Permeating Testing DuPont Tychem® Chemical Barrier Fabric

For additional information on DuPont Tychem® fabrics,
call 1-800-558-9329 (1-800-55-TYFAX).

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Chemical Warfare Agent Permeation Testing DuPont Tychem® Chemical Barrier Fabric

Tychem® 10,000 Fabric

Agent	Common Name	Protocol	Average Breakthrough Time	Minimum Detectable Permeation (µg/cm²)
GA	Tabun	DN6	>12 hrs.	<0.0002
GB	Sarin	DN6	>12 hrs.	<0.0002
GD	Soman	DN6	>12 hrs.	<0.0002
HD	Sulfur Mustard	DN4	>12 hrs.	<0.2000
L	Lewisite	DN4	>12 hrs.	<0.0120
VX		DN6	>12 hrs.	<0.0002

Tychem® 9400 Fabric

Agent	Common Name	Protocol	Average Breakthrough Time	Minimum Detectable Permeation (µg/cm²)
GA	Tabun	DN5	>12 hrs.	<0.0001
GB	Sarin	DN5	>12 hrs.	<0.0001
		DN6	>12 hrs.	<0.0001
GD	Soman	DN5	>12 hrs.	<0.0001
HD	Sulfur Mustard	DN3	>12 hrs.	<0.1000
		DN4	>12 hrs.	<0.1000
L	Lewisite	DN3	>12 hrs.	<0.0060
		DN4	2 hrs.	<0.0042
VX		DN5	>12 hrs.	<0.0001
		DN6	>12 hrs.	<0.0001

Fabric Test Protocols. All tests performed in triplicate for DuPont Nonwovens by an independent accredited laboratory.

Protocol DN3—MIL-STD-282, Method T-209 (HD) or modified for Lewisite, for 12 hours at 10 g/m².

Protocol DN4—MIL-STD-282, Method T-209 (HD) or modified for Lewisite, for 12 hours at 100 g/m² (total coverage).

Protocol DN5—MIL-STD-282, Method T-208 (GB) or modified for GA, GD and VX, for 12 hours at 10 g/m².

Protocol DN6—MIL-STD-282, Method T-208 (GB) or modified for GA, GD and VX, for 12 hours at 100 g/m² (total coverage).

Warning:

1. Tychem® fabrics (Tyvek QIC®, Tychem® SL, Tychem® 7500, Barricade®, Tychem® 9400 and Tychem® 10,000) should not be used around heat, flames, sparks or in potentially flammable or explosive environments.
2. Garments made of Tychem® fabrics should have slip-resistant or antislip materials on the outer surface of boots, shoe covers or other garment surfaces in conditions where slipping could occur.

Equipment Type:

Impermeable Chemical Protective Clothing (TYCHEM 10,000 fabric)

Make / Model:

Lakeland Industries, NFPA 1991-Compliant, Level “A” Suits (Limited Use)

Description:

This is a one-piece, vapor-proof, fully encapsulating suit, available in front or rear entry style, with flat or expanded style back, and includes an aluminized overcover and Bata “HAZMAX” boots. The suit incorporates three covered exhaust valves, integral sock boots, and an internal waist belt. The NFPA 1991-compliant suits provide barrier protection against C/B warfare agents, and radioactive particulates combined with radiant heat protection.

Features / Benefits

- Choice of Aluminized PBI/Kevlar fabric blend, or Aluminized Fiberglass Over-cover
- Sealed interior and exterior seams
- Two-layer (10-mil. Teflon and 40-mil. polished PVC) face shield
- Three-layer glove set (Viton, Silver Shield, and Kevlar knit)

Specifications

- **Fabric Weight** – 9.5 oz. per square yd.
- **Suit Weight** – 25 lbs. (approx.)
- **Permeation resistance / breakthrough times for specified agents:**
 - Tychem 10,000 fabric only
 - See accompanying chart

Size

Small, Medium, Large, and X-Large to 5XL

Shelf Life

5 years in original packaging, if unused

Accessories

- Glove Quick-Disconnect Assembly; Air Supply Pass-Thru fittings; Pressure Test Kit
- Crotch and Elbow reinforcement available on request

Approvals

- Tychem 10,000 fabric meets all fabric requirements under NFPA 1993
- Tychem 10,000 fabric only – U.S. MIL-STD-282, Protocols DN3 and DN4 for HD and L, and Protocols DN5 and DN6 for GA, GB, GD, and VX (revised May 1997) (Lakeland does not test finished suits under above protocols)
- NFPA 1991-certified for complete ensembles (certification is invalid if components are acquired separately)

Manufacturer / Distributor

Lakeland Industries

Decatur, AL
(800) 645-9291



**Lakeland Industries, NFPA 1991-Compliant, Level "A" Suit (Limited Use),
Impermeable Chemical Protective Clothing (TYCHEM 10,000 fabric)**

Equipment Type:

Impermeable Chemical Protective Clothing (TYCHEM 10,000 fabric)

Make / Model:

Lakeland Industries, “Deluxe” and “Standard” Level “A” Suits (Limited Use)

Description:

These are one-piece, vapor-proof, fully encapsulating suits, available in front or rear entry style, with flat or expanded style back. The suits incorporate two covered exhaust valves, integral sock boots and an internal waist belt. The suit fabric offers broad chemical holdout with high abrasion resistance providing barrier protection against C/B warfare agents, and radioactive particulates.

Features / Benefits

- Deluxe and Standard Suits – 48-in. zipper with double storm flap and storage bag
- Deluxe Suit – Two-layer (10-mil. Teflon and 40-mil. PVC) face shield; three-layer glove set (butyl, Silver Shield, and Kevlar knit); sealed interior and exterior seams
- Standard Suit – Single-layer (40-mil. polished PVC) face shield, butyl gloves, and exterior seams sealed

Specifications

- **Fabric Weight** – 9.5 oz. per square yd.
- **Suit Weight** – 8 lbs. (approx.)
- **Permeation resistance / breakthrough times for specified agents:**
 - Tychem 10,000 fabric only
 - See accompanying chart

Size

Small, Medium, Large, and X-Large to 5XL

Shelf Life

5 years in original packaging, if unused

Accessories

- Glove Quick Disconnect Assembly; Air Supply Pass-Thru fittings; Pressure Test Kit
- Crotch and elbow reinforcement available on request
- Additional Level “A” and “B” suits and other styles available, contact manufacturer for complete list

Approvals

- Tychem 10,000 fabric meets all fabric requirements under NFPA 1993
- Tychem 10,000 fabric only – U.S. MIL-STD-282, Protocols DN3 and DN4 for HD and L, and Protocols DN5 and DN6 for GA, GB, GD, and VX (revised May 1997) (Lakeland does not test finished suits under above protocols)

Manufacturer / Distributor

Lakeland Industries
Decatur, AL
(800) 645-9291



**Lakeland Industries, “Deluxe” and “Standard” Level “A” Suits (Limited Use),
Impermeable Chemical Protective Clothing (TYCHEM 10,000 Fabric)**

Equipment Type:

Impermeable Chemical Protective Clothing (TYCHEM 9400 fabric)

Make / Model:

Lakeland Industries, Style 94400 and Style 94450 Level “B” Suits (Limited use)

Description:

These are one-piece, rear entry, encapsulating suits with elasticized wrists and attached sock boots with boot flaps. The Style 94400 is a flat back suit with one shrouded exhaust port; the Style 94450 is an expanded back suit with two shrouded exhaust ports. The suit fabric offers broad chemical holdout with high abrasion resistance providing barrier protection against C/B warfare agents, and radioactive particulates.

Features / Benefits

- 48-in. zipper with storm flap
- 20-mil. Polished PVC faceshield

Specifications

- **Fabric Weight** – 6.1 oz. per square yd.
- **Suit Weight** – 5 lbs. (approx.)
- **Permeation resistance / breakthrough times for specified agents:**
 - Tychem 9400 fabric only
 - See accompanying chart

Size

Small, Medium, Large, and X-Large to 5XL

Shelf Life

5 years in original packaging, if unused

Accessories

- Crotch and elbow reinforcement available on request.
- Additional Level “A” and “B” suits, and additional styles available, contact manufacturer for complete list

Approvals

- Tychem 9400 fabric meets all fabric requirements under NFPA 1993
- Tychem 9400 fabric only – U.S. MIL-STD-282, Protocols DN3 and DN4 for HD and L, and Protocols DN5 and DN6 for GA, GB, GD, and VX (revised May 1997) (Lakeland does not test finished suits under above protocols)

Manufacturer / Distributor

Lakeland Industries
Decatur, AL
(800) 645-9291



**Lakeland Industries, Style 94400 and Style 94450 Level “B” Suits (Limited Use),
Impermeable Chemical Protective Clothing (TYCHEM 9400 Fabric)**

Equipment Type:

Impermeable Chemical Protective Clothing (TYCHEM 10,000 fabric)

Make / Model:

MarMac NFPA 1991-Compliant “Commander Brigade” Level “A” Suit (Limited use)

Description:

This is a one-piece, vapor-proof, fully encapsulating suit, available in front or rear entry style with an expanded style back and includes an aluminized fiberglass overcover. The suit incorporates two covered exhaust valves, integral sock boots, and an internal waist belt. The NFPA 1991-compliant suit provides barrier protection against C/B warfare agents, and radioactive particulates combined with radiant heat protection.

Features / Benefits

- Sealed interior and exterior seams (interior suit)
- Wide view, four-layer face shield (inner suit – 40-mil. PVC / 5-mil. Teflon / 20-mil. PVC, outer cover – 20-mil. Lexan)
- Three-layer glove set (neoprene/ EVOH film/Kevlar knit)
- Knee wear pads (internal suit)

Specifications

- **Fabric Weight** – 9.5 oz. per square yd.
- **Suit Weight** – 13 lbs. (approx., includes inner suit and outer cover)
- **Permeation resistance / breakthrough times for specified agents:**
 - Tychem 10,000 fabric only
 - See accompanying chart

Size

Small, Medium, Large, X-Large, 2XL, and 3XL

Shelf Life

5 years in original packaging, if unused

Accessories

Glove Quick-Disconnect Assembly; Air Supply Pass-Thru fittings; Pressure Test Kit

Approvals

- Tychem 10,000 meets all fabric requirements under NFPA 1993
- Tychem 10,000 fabric only – U.S. MIL-STD-282, Protocols DN3 and DN4 for HD and L, and Protocols DN5 and DN6 for GA, GB, GD, and VX (revised May 1997) (MarMac does not test finished suits under above protocols)
- NFPA 1991, 1994 edition compliant

Manufacturer / Distributor

MarMac Manufacturing, Inc
McBee, SC
(800) 845-6962



**MarMac NFPA 1991-Compliant “Commander Brigade” Level “A” Suit (Limited Use),
Impermeable Chemical Protective Clothing (TYCHEM 10,000 Fabric)**

Equipment Type:

Impermeable Chemical Protective Clothing (TYCHEM 10,000 fabric)

Make / Model:

MarMac “Commander 10,000” Level “A” Suit (Limited use)

Description:

This is a one-piece, vapor-proof, fully encapsulating suit, available in front or rear entry style, with flat or expanded style back. The suit incorporates two covered exhaust valves, integral sock boots, and an internal waist belt. The suit fabric offers broad chemical holdout with high abrasion resistance providing barrier protection against C/B warfare agents, and radioactive particulates.

Features / Benefits

- Wide view, three-layer (40-mil. PVC / 5-mil. Teflon / 20-mil. PVC) Faceshield
- Double storm flap covered zipper
- Two-layer glove system (EVOH film + Butyl or Viton)
- Knee wear pads for added strength

Specifications

- **Fabric Weight** – 9.5 oz. per square yd.
- **Suit Weight** –
- **Permeation resistance / breakthrough times for specified agents:**
 - Tyvek 10,000 fabric only
 - See accompanying chart

Size

Small, Medium, Large, X-Large, 2XL, and 3XL

Shelf Life

5 years in original packaging, if unused

Accessories

- Glove Quick-Disconnect Assembly; Air Supply Pass-Thru fittings; Pressure Test Kit
- “Commander” series also available in Tychem 9400 fabric, contact manufacturer for additional information

Approvals

- Tychem 10, 000 meets all fabric requirements under NFPA 1993
- Tychem 10,000 fabric only – U.S. MIL-STD-282, Protocols DN3 and DN4 for HD and L, and Protocols DN5 and DN6 for GA, GB, GD, and VX (revised May 1997) (MarMac does not test finished suits under above protocols)

Manufacturer / Distributor

MarMac Manufacturing, Inc
McBee, SC
(800) 845-6962



**MarMac “Commander 10,000” Level “A” Suit (Limited Use),
Impermeable Chemical Protective Clothing (TYCHEM 10,000 Fabric)**

Equipment Type:

Impermeable Chemical Protective Clothing (TYCHEM 10,000 and 9400 fabric)

Make / Model:

MarMac “Probe” Series, Level “B” Suits (Limited use)

Description:

These are one-piece, expanding back, encapsulating suits with two exhaust valves, elasticized wrists, and attached sock boots with boot flaps, available in front or rear entry style. Both fabric choices offer broad chemical holdout with high abrasion resistance providing barrier protection against C/B warfare agents, and radioactive particulates.

Features / Benefits

- Sealed external seams
- Wide view, three-layer (20-mil. PVC / 5-mil. Teflon / 5-mil. Polyester) face shield
- Double storm flap cover over PVC zip-lock zipper
- Knee wear pads for added strength

Specifications

- **Fabric Weight** – 10,000 fabric / 9.5 oz. square yd. – 9400 fabric / 6.1 oz. square yd.
- **Suit Weight** – 8 lbs. (approx.)
- Permeation resistance / breakthrough times for specified agents:
 - **Tyvek 10,000 fabric only**
 - **See accompanying chart**

Size

Small, Medium, Large, X-Large, 2Xl, and 3Xl

Shelf Life

5 years in original packaging, if unused

Accessories

- Glove Ring Assemblies; Air Supply Pass-Thru fittings
- Additional suits and styles available, contact manufacturer for additional information

Approvals

- Tychem 10,000 and 9400 meets all fabric requirements under NFPA 1993
- Tychem 10,000 and 9400 fabrics only – U.S. MIL-STD-282, Protocols DN3 and DN4 for HD and L, and Protocols DN5 and DN6 for GA, GB, GD, and VX (revised May 1997) (MarMac does not test finished suits under above protocols)

Manufacturer

MarMac Manufacturing, Inc.
McBee, SC
(800) 845-6962



**MarMac “Probe” Series, Level “B” Suit (Limited Use),
Impermeable Chemical Protective Clothing (TYCHEM 10,000 and 9400 Fabric)**

Equipment Type:

Impermeable Chemical Protective Clothing (Re-Usable)

Make / Model:

MarMac “Commander UltraPro” Level “A” Suit

Description:

This is a one-piece, expanded back, vapor-proof, fully encapsulating suit, available in front or rear entry style. The suit incorporates two covered exhaust valves, integral sock boots, and an internal waist belt. The suit fabric offers broad chemical holdout with high abrasion resistance providing barrier protection against C/B warfare agents, and radioactive particulates.

Features / Benefits

- Flame resistant, single-layer, Teflon composite fabric
- Sealed interior and exterior seams
- Wide view multi-layer face shield (Inner – 10-mil. FEP Teflon / Outer – replaceable 20-mil. PVC overlay)
- Three-layer glove system (neoprene, EVOH film, and Kevlar knit)
- Knee wear pads for added strength
- Color-coded abrasion indicator layer

Specifications

- **Fabric Weight** –
- **Suit Weight** –
- **Permeation resistance / breakthrough times for specified agents** –

Size

Small, Medium, Large, X-Large, 2XL, and 3XL

Shelf Life

Indefinite – contingent on periodic visual inspection and pressure-test results

Accessories

Glove Quick-Disconnect Assembly; Air Supply Pass-Thru fittings; Pressure Test Kit

Approvals

- NFPA 1991, 1994 Edition certified
- Meets requirements of ASTM F1001

Manufacturer

MarMac Manufacturing, Inc.
McBee, SC
(800) 845-6962



**MarMac “Commander UltraPro” Level “A” Suit,
Impermeable Chemical Protective Clothing (Re-Usable)**

Equipment Type:

Explosive Effects (Blast / Fragmentation) Protective Clothing

Make / Model:

Med-Eng Chemical / Biological SRS-5 Explosive Ordnance Disposal (EOD)-IEDD Protective Systems

Description:

The SRS-5 is a modular, full-body protective system comprised of trousers, jacket, groin protector, and helmet with choice of visor options. The SRS-5 system provides protection from explosives effects (thermal, blast overpressure, and fragmentation). The system is compatible with select C/B barrier suits (the manufacturer suggests the use of a permeable, carbon impregnated barrier garment and cooling suit), and respirators / self-contained breathing apparatus (SCBA).

Features / Benefits

Modular design combined with laminate construction offers inherent high level of protection against CW agent liquid and vapor

Specifications

N/A

Size

Small, Medium, Large, and X-Large

Weight

65 lbs. (approx.)

Shelf Life

N/A

Accessories

- Body Cooling Suit, BCS-3; Ballistic Add-ons; Hardwire and wireless Communications Sets; External Power supply and auxiliary batter-packs; Helmet-mounted search light
- Contact manufacturer for complete list of accessory / additional items

Approvals

Contact manufacturer for available test reports

Manufacturer / Distributor

Med-Eng Systems, Inc.

Ottawa, Ontario, Canada

(800) 644-9078 (North America only)



**Med-Eng Chemical / Biological SRS-5 EOD-IEDD Protective Systems,
Explosive Effects (Blast / Fragmentation) Protective Clothing**

PERSONAL PROTECTIVE EQUIPMENT:
PPE Accessories

Equipment Type:
Butyl Rubber Gloves

Description:

Butyl-rubber gloves exhibit the highest permeation resistance to gas or water vapors, the long cuff offers over-the-wrist protection. They remain flexible and sensitive at lower temperature. Curved fingers and hand design mean better fit and greater worker comfort. The gloves are durable and decontaminable.

Features / Benefits

- Variety of thickness' available
- Available with "Grip-Safe" textured palm

Specifications

N/A

Size

7, 8, 9, 10, and 11

Weight

N/A

Shelf Life

N/A

Accessories

None

Approvals

ASTM Standard F 739-91

Manufacturer / Distributor

North Safety Products
Hand Protection Division
Charleston, SC 29405
(803) 554-0660

Vallen Safety Supply Co.
Houston, TX 77040
(713) 462-8700



Butyl Rubber Gloves

Equipment Type:

Silver Shield Gloves

Description:

Silver Shield gloves are highly impermeable to a wide range of solvents, acids, and bases. The long cuff design offers above-the-wrist protection. Made from “Norfoil” laminate they are lightweight, flexible, and readily conform to the hand.

Features / Benefits

- Low cost, disposable
- Ambidextrous, no pairing needed

Specifications

- Laminate construction
- 3-mil. thickness
- 14-in. length

Size

Small, Medium, and Large

Weight

N/A

Shelf Life

N/A

Accessories

None

Approvals

ASTM Standard F 739-91

Manufacturer / Distributor

North Safety Products
Hand Protection Division
Charleston, SC 29405
(803) 554-0660

Vallen Safety Supply Co.
Houston, TX 77040
(713) 462-8700



Silver Shield Gloves

Equipment Type:

Nitrile Gloves

Description:

These are hypoallergenic, synthetic nitrile, form-fitting gloves. Designed to be worn as the first layer of gloves, they offer higher chemical, puncture, and abrasion resistance than rubber or latex gloves. They remain flexible at lower temperatures, which means increased wearer comfort.

Features / Benefits

- High level of dexterity with high tensile strength for superior resistance to cuts, snags and abrasion
- Ambidextrous
- Low cost
- Disposable

Specifications

- Available in two thickness':
 - “Standard” glove is 4 mils.
 - “Plus” glove is 8 mils.

Size:

- “Standard” available in M, Lg, and X-Lg
- “Plus” available in M and Lg

Weight

N/A

Shelf Life

N/A

Accessories

None

Approvals

Title 29 CFR 1910.1030, OSHA Standard for Occupational Exposure to Bloodborne Pathogens

Manufacturer / Distributor

Best Manufacturing Co.
Menlo, GA 30731
(800) 241-0323

Associated Bag Co.
Milwaukee, WI 53207
(800) 926-6100

Nitrile Gloves



H55-17

Nitrile Gloves



H55-18

Nitrile Gloves

Equipment Type:

Chemical Protective Boots

Make / Model:

“HAZMAX” Model 87011 and 87012

Description:

These are chemical protective knee-high boots suitable for wear with a level “A,” “B,” or “C” ensemble. These boots are manufactured from a PVC-polymer compound, which is ‘injection molded,’ resulting in a seamless boot offering full foot support, and protection from compression, impact, and underfoot penetration.

Features / Benefits

- Decontaminable
- Molded kickoff lug
- High visibility “Chemical Green” upper with yellow nonslip outer sole

Specifications

- 16-in. height
- Steel safety toe with full-length steel midsole

Size

Men’s full sizes 6 through 15

Weight

Average 3 lbs. per pair

Shelf Life

N/A

Accessories

None

Approvals

- NFPA 1991 Chemical Permeation Resistance Requirements
- NFPA 1991 Flammability Resistance Test
- ANSI Z41 Class 75 for impact and compression
- ANSI Z41-PR for underfoot protection
- ANSI Z41-1983 for Dielectric Footwear

Manufacturer / Distributor

Bata Shoe Company, Inc.
Belcamp, MD 20107
(410) 272-2000

Vallen Safety Supply Co.
Houston, TX 77040
(713) 462-8700



H66-43

“HAZMAX” Model 87011 and 87012, Chemical Protective Boots

Equipment Type:

Coveralls, Fire Resistant

Description:

These are one-piece, long sleeve, fire resistant coveralls suitable for wear as part of a Level “D” ensemble or as the inner layer of clothing for a Level “C” or “A” ensemble. They are zipper closed in the front using a two-way brass zipper.

Features / Benefits

- BI-swing back
- Two large breast and patch pockets
- Two pass through pockets with snap closure

Specifications

- NOMEX IIIA material.
- Colors – Navy Blue, Royal Blue, Red, Orange, Gray, or Tan

Size

N/A

Weight

4.5 oz. per square yd. or 6 oz. per square yd.

Shelf Life

N/A

Accessories

None

Approvals

NFPA 1975 Standards on Work/Station uniforms for Firefighters, 1994 edition

Manufacturer / Distributor

Topps, Inc

Vallen Safety Supply Co.
Houston, TX 77040
(713) 462-8700



100-1

Coveralls, Fire Resistant

Equipment Type:
Advent Safety Helmet

Description:

This safety helmet features a one-piece, multi-level shell. The helmet comfortably fits a large size range due to the Sure-Lock Ratchet system, 8-point suspension system, and adjustable chinstrap.

Features / Benefits

- Multi-level construction, reduces shock to the neck and spine through front, back, top, and side impact protection

Specifications

- Polycarbonate alloy outer shell
- Expanded polystyrene (EPS) foam core
- ABS inner shell
- Expanded polyethylene (EPE) crown

Colors

Blue, Red, Orange, White, or Yellow

Size

Adjustable

Weight

N/A

Shelf Life

N/A

Accessories

None

Approvals

- ANSI Z89.1-1986 Class A and B
- Cognizant Security Agency (CSA) Z94.1-1992 Class G

Manufacturer / Distributor

E.D. Bullard Company
Cynthiana, KY

Vallen Safety Supply Co.
Houston, TX 77040
(713) 462-8700

Advent Safety Helmet



H66-44

Advent Safety Helmet

Equipment Type:

Safety Glasses

Make / Model:

Encon Model 1920 Enfog

Description:

These are single lens, full frame safety glasses. They feature a one-piece wraparound frame, universal nose bridge, and antifog coating.

Features / Benefits

- High impact resistance
- Lightweight

Specifications

- Polycarbonate lens
- Two-post hinge mechanism incorporating a polycarbonate sideshield
- 99.9-percent UV filtration

Colors

- Frames / Clear
- Temple / Clear, White, Blue, Red, Purple, Yellow, and Orange
- Lens / Clear only

Size

N/A

Weight

N/A

Shelf Life

N/A

Accessories

None

Approvals

- ANSI Z87.1-1989
- CSA Z94.3

Manufacturer / Distributor

Encon Eye Protection
Vallen Safety Supply Company
Houston, TX 77040
(713) 462-8700

Encon Safety Glasses



H86-39

Encon Model 1920 Enfog Safety Glasses

Equipment Type:

Cooling Vest

Make / Model:

“Model 15”

Description:

This is a one-piece, six-pocket (three each front / back) vest. The cooling is achieved by inserting frozen “gel ice” strips in the pockets provided. It is designed to be slipped over the user’s head and secured around the waist. It is intended to be worn under the Level “A” or “C” outer suit to help reduce the effects of heat stress.

Features / Benefits

- Low profile
- 4- to 6-hour duration

Specifications

- NOMEX or cotton construction
- “Thinsulate” brand insulation

Color

Blue

Size

Adult, teen, and child

Weight

8 to 12 lbs. fully loaded

Shelf Life

N/A

Accessories


Replacement gel strips

Approvals

N/A

Manufacturer / Distributor

ILC Dover, Inc.
Frederica, DE 19946
(302) 335-3911



COOL VEST

The ILC Model 15 Ice Pack Vest is a *lightweight, low-profile static cooling garment. This fully insulated self-contained garment uses frozen gel packs to help prevent heat stress, keeping workers cool in high ambient temperatures. The Ice Pack Vest is the best option when cooling is needed in potentially explosive Class I and II environments.*

MODEL 15

H66-37

“Model 15” Cooling Vest

DETECTION EQUIPMENT

DETECTION EQUIPMENT:
Detector Tubes and Tickets

Equipment Type:

Chemical Warfare Agent, Detection, and Identification (Reactive / PH Paper)

Make / Model:

Liquid Chemical Agent Detector (M8, M9, and 3-Way Paper)

Description:

M8, M9, and 3-way paper are used for the field detection and identification of liquid chemical warfare, nerve, and blister agent. M8 paper is issued in booklets of perforated, non-adhesive backed sheets; M9 and 3-way paper are issued in dispenser rolls of perforated, adhesive backed sheets. All are disposable, single use sheets.

Features / Benefits

- Easy to use
- Instantaneous response to indicate presence of liquid blister and nerve agent

Specifications

- M8 and 3-Way – three-color response – Yellow = G (non-persistent nerve agent), Dark Green to Black = VX (persistent nerve agent), Red = H (blister agent). Certain G-agents give red-brown color response that is intermediate between the typical H and G colors
- M9 – light pink to red, single color response to indicate presence of liquid blister (H) and nerve agent (G and VX)

Color

N/A

Size

N/A

Weight

N/A

Shelf Life

- M8 and 3-way paper has indefinite shelf life, if kept dry
- M9 – 3 years from date of manufacture

Accessories

N/A

Approvals

N/A

Manufacturer / Distributor

Anachemia Canada Inc.
Quebec, Canada
(514) 489-5711

Truetech, Inc.
Riverhead, NY 11901-2585
(516) 727-8600

M8/M9 Paper



H66-42

**Liquid Chemical Agent Detector (M8, M9, and 3-Way Paper) –
Chemical Warfare Agent, Detection, and Identification (Reactive / PH Paper)**

Equipment Type:

Chemical Warfare Agent, Detection, and Identification, Colormetric Tubes / Tickets

Make / Model:

Chemical Agent Detector Kit, M18A2

Description:

This is a portable, manually operated detection kit used to detect and identify chemical warfare agent liquid and vapor in the field. It may be used for area or point sampling. The kit comprises a plastic carrying case, a set of laminated instruction cards, reagent solution/tablets, three plastic solution bottles (one green top, one blue top, one white top), enzyme tickets, Draeger-type tubes (yellow band, blue band, red band, green band, and white band), aspirator bulb, M8 paper, sample envelopes, and a pencil. There are no refill kits available to replace components of the kit expended in training or operations.

Features / Benefits

- Detects known chemical warfare agent liquids, vapors, and aerosols
- Easy to use

Specifications

- Reaction time less than 3 minutes per test, a complete series of tests may take up to 20 minutes
- Kit contains sufficient quantities for 25 complete series of tests
- Detection levels: GB – 1.0 mg/m³, VX – 0.1 mg/m³, H – 0.5 mg/m³, HCN – 8.0 mg/m³, L – 10.0 mg/m³, CG – 12.0 mg/m³, CX – x.x mg/m³, AC/CK – x.x mg/m³
- Provides for biological agent sampling; however, requires lab to analyze

Size

8 in. (L) x 6 in. (H) x 3 in. (W) (approx.)

Weight

2.5 lbs. (approx.)

Shelf Life

3 years from date of manufacture

Accessories

N/A

Approvals

Currently in use with U.S. military forces

Manufacturer / Distributor

Truetech, Inc.
Riverhead, NY 11901-2585
(516) 727-8600

M-18 Kit



H68-35

**Chemical Agent Detector Kit, M18A2 –
Chemical Warfare Agent, Detection, and Identification, Colormetric Tubes / Tickets**

Equipment Type:

Chemical Warfare Agent, Detection, and Identification, Colormetric Tubes / Tickets

Make / Model:

Chemical Agent Detector Kit, M256A1

Description:

This is a portable, manually operated kit used to detect and identify chemical warfare agent liquid and vapor. The kit consists of a plastic carrying case containing 12 individually wrapped and sealed sampler/detectors and a booklet of M8 paper. Unlike the M18 kit, the samplers in the M256 kit are ready to use and disposable after use; however, it does not allow the specificity of testing permitted by the M18 kit.

Features / Benefits

- Self-contained, requires no mixing of reagent or pre-testing of components
- Disposable after use

Specifications

- Detects the following nerve, blood, and blister agents shown, within 20 minutes:
 - G and V series nerve agents, H, HN, HD blister agents, L and CX blister agents, and AC and CK blood agents
- Kit contains 12 sampler – detectors

Size

- 7 in. (L) x 3 in. (W) x 5 in. (H)
- Operating temperature range: -25 °F to 120 °F

Weight

1.2 lbs. (approx.)

Shelf Life

5 years from date of manufacture

Accessories

N/A

Approvals

Currently in use with U.S. military forces

Manufacturer

Acachemia Canada Inc.
Quebec, Canada
(514) 489-5711

Truetech, Inc.
Riverhead, NY 11901-2585
(516) 727-8600

M256 Kit



H58-34

**Chemical Agent Detector Kit, M256A1 –
Chemical Warfare Agent, Detection, and Identification, Colormetric Tubes / Tickets**

Equipment Type:

Chemical Warfare Agent, Detection, and Identification, Colormetric Tubes / Tickets

Make / Model:

MSA / AUER Chemical Warfare Agent Detector Tubes

Description:

These are “Draeger-type” colormetric tubes used to detect and identify chemical warfare, nerve, blister, and blood agent vapor.

Features / Benefits

- Does not require addition of reagent after sampling
- Rapid response time of xx minutes
- Easy to read “Go / No-Go” color change
- Disposable after use

Specifications

- Detects chemical agent vapors shown:
 - Part # 10007654 – G-series and VX nerve agents
 - Part # 10007653 – Mustard (H) blister agent
 - Part # 10007650 – Lewisite (L) blister agent
 - Part # 10007652 – Blister agent
 - Part # 10007651 – Choking (CG/DP) and Blood (AC/CK) agent
- Specific detection threshold levels not available at time of printing

Size

Standard 7mm diameter tube

Weight

N/A

Shelf Life

N/A

Accessories

- MSA “Kwik-Draw” Deluxe Pump, “Gas-Tester II H” Pump, “Toximeter II” Automatic Pump
- Draeger “Model 31 Bellows Pump,” or “Accuro Pump” are compatible with these tubes

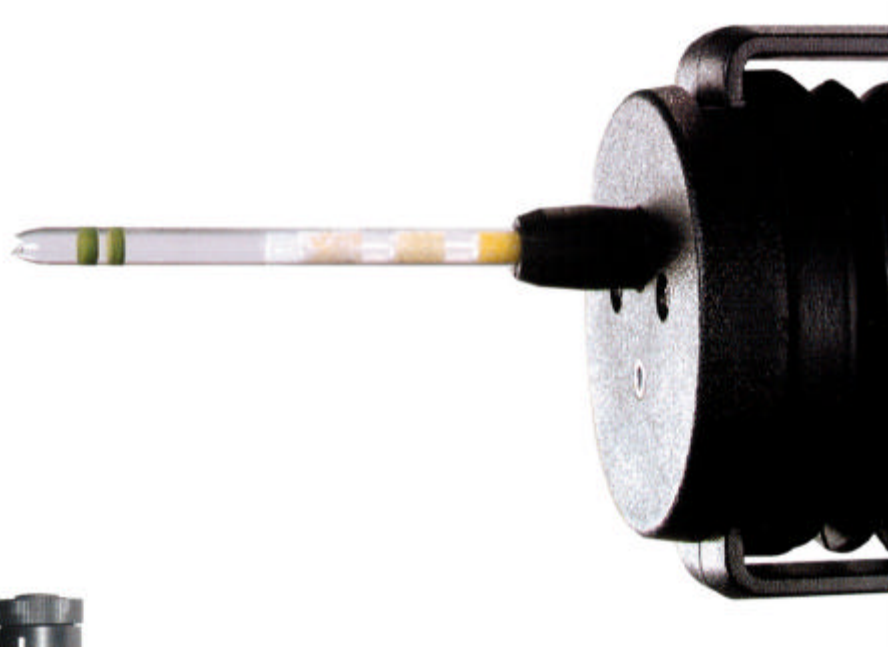
Approvals

N/A

Manufacturer

Mine Safety Appliances
Pittsburg, PA
(800) MSA-2222
www.MSAnet.com

Kwik-Draw



Toximeter



**MSA/AUER Chemical Warfare Agent Detector Tubes –
Chemical Warfare Agent, Detection, and Identification, Colormetric Tubes / Tickets**

Equipment Type:

Chemical Warfare Agent, Detection, and Identification, Colormetric Tubes / Tickets

Make / Model:

Draeger “Civil Defense Set” (CDS), Chemical Warfare Agent Detection System

Description:

This is a manually operated, point or area air sampling system, comprising the following items: one carrying case; two Accuro hand pumps; five CDS Set I; five CDS Set V; one Tube opener; two Set openers; one Accuro pump instruction sheet; one spare parts kit; one 1-meter extension hose w/adapter; one reorder card; one laminated instruction card; and one indelible marker.

Features / Benefits

- Easy to use “Bellows” type pump, allows for one hand operation
- Corrosion resistant, needs no lubrication or special tools for maintenance
- Minimal user-training required
- Colormetric tubes are scaled to show concentration of gas or vapor present
- 5-minute response time

Specifications

- Uniform pump stroke delivers 100 cubic centimeters of sample air per stroke
- Each “CDS Set I” contains five, manifold-mounted tubes that detect the following agent / concentration:
 - AC (Hydrocyanic acid) @ 1 ppm; CG (Phosgene) @ 0.2 ppm; L (Lewisite) @ 3 mg/m³ (organic arsenic) 0.1 ppm (arsine); HN1, HN2, HN3 (Nitrogen Mustard) @ 1 mg/m³ (organic nitrogen compounds); H, HD (Sulfur Mustard) 1 mg/m³ (thioether)
- Each “CDS Set V” contains five, manifold-mounted tubes that detect the following agent / concentration:
 - Nerve Agents (phosphoric acid esters) @ 0.025 ppm; CG (Phosgene) @ 0.2 ppm; CK (Cyanogen Chloride) @ 0.25 ppm; Chlorine @ 0.2 ppm; HN1, HN2, HN3 (Sulfur Mustard) @ 1 mg/m³ (thioether)

Colors

“Accuro” pump is blue with black handles

Weight

N/A

Size

N/A

Shelf Life

Colormetric Tubes – dependent on type

Accessories

CDS-I and CDS-V sets may be acquired separately to replace expended sets

Approvals

N/A

Manufacturer / Distributor

National Draeger, Inc.
Pittsburgh, PA 15230-0120
(412) 787-8383

Vallen Safety Supply Co.
Houston, TX 77040
(713) 462-8700



**Draeger “Civil Defense Set” (CDS), Chemical Warfare Agent Detection System –
Chemical Warfare Agent, Detection, and Identification, Colormetric Tubes / Tickets**

Equipment Type:

Chemical Warfare Agent, Detection, and Identification, Colormetric Tubes / Tickets

Make / Model:

Draeger Automatic Air Sampling / Gas (Vapor) Detection System

Description:

This is a battery powered, electro-mechanical pump housing that uses the Accuro hand pump. The system allows for automatic point or area air sampling. It is fully programmable and displays total number of strokes, number of strokes remaining and low battery condition. Other system components include the battery pack and charger, carrying strap, and Draeger Colormetric Tubes.

Features / Benefits

- Eliminates manual operation of the “Accuro” hand pump
- Corrosion resistant, needs no lubrication or special tools for maintenance

Specifications

- LCD display
- 6-volt (rechargeable) battery

Colors

Blue and black

Size

7.5 in. x 10.75 in. x 4 in.

Weight

5.25 lbs.

Shelf Life

Tubes – dependent on type

Accessories

- Deluxe Kit includes the pump, tube opener, extension hose adapter, spare parts kit, screwdriver, 10 rubber caps, rigid carrying case, and permanent marker
- Soft Side Kit includes the pump, spare parts kit, screwdriver, permanent marker, and nylon carry pouch
- Other – extension hose (3m, 10m, and 15m), hot air probe, and motor vehicle exhaust probe

Approvals

N/A

Manufacturer / Distributor

National Draeger, Inc.
Pittsburgh, PA 15230-0120
(412) 787-8383

Vallen Safety Supply Co.
Houston, TX 77040
(713) 462-8700

Accuro-2000



H06-28

Quantimeter



**Draeger “Automatic Air Sampling/Gas (Vapor) Detection System
Chemical Warfare Agent, Detection, and Identification, Colormetric Tubes / Tickets**

DETECTION EQUIPMENT:
IMS Instruments

Equipment Type:

Chemical Warfare Agent, Detection, and Identification, Ion Mobility Spectrometry

Make / Model:

Graseby, “Chemical Agent Monitor” (CAM)

Description:

The CAM is a military-style, hand-held point monitor designed to determine and indicate the hazard from chemical warfare nerve and blister agent vapor in the field. The system components include the detector unit, storage and carrying case, carrying harness, primary and spare lithium batteries, standoff collars, and simulant test kit.

Features / Benefits

- Back-lit Lightweight Chemical Detector (LCD) bar-graph display with audible alarm
- Rapid response and clearing times
- Two button operation
- Military Specification (Mil-Spec) design allows for decontamination with hot water / soap solutions

Specifications

- Air sample rate of 400 ml per minute
- Monitors for and discriminates between nerve (G-series and VX) and blister (HD and HN3) agent vapor at the minimum threshold shown:
 - GA, GB – 0.1 mg/m³ in less than 30 seconds
 - VX – 0.4 mg/m³ in less than 30 seconds
 - HD – 2.0 mg/m³ in less than 15 seconds
- Battery life averages 10 hours @ 68 °F
- Operating temperature range / -13 °F to 113 °F

Size

15.5 in. (L) x 3.1 in. (W) x 5.6 in. (H)

Weight

3.9 lbs.

Shelf Life

- Requires Nuclear Regulatory Commission (NRC) license (or State equivalent) and life-cycle tracking for Nickle-63 source
- Requires annual maintenance and “swipe testing”

Accessories

N/A

Approvals

Currently in use with U.S. military forces

Manufacturer / Distributor

Graseby Dynamics, Limited
Fairfax, VA 22030
(703) 218-0380



Graseby, “Chemical Agent Monitor” (CAM)
Chemical Warfare Agent, Detection, and Identification, Ion Mobility Spectrometry

Equipment Type:

Chemical Warfare Agent, Detection, and Identification, Ion Mobility Spectrometry

Make / Model:

Graseby, "Lightweight Chemical Detector" (LCD)

Description:

The LCD is a portable, hand-held area type air sampler that can detect subsymptomatic levels of select chemical warfare agents. It is user programmable in the field to detect additional live agents, or training/simulated agents.

Features / Benefits

- Easy-to-read LCD display
- Simultaneous detection of nerve, blister, blood, and choking agents
- Data-logging capability
- No NRC license requirement

Specifications

- Nonradioactive ionization source
- Detection of chemical agent vapor at the minimum threshold shown:
 - GD – 0.1 mg/m³; GA – 0.2 mg/m³; GB – 0.5 mg/m³; HD – 1.0 mg/m³
- 60-hours continuous operation with 4 AA alkaline batteries

Size

5.25 in. x 4.25 in. x 1.25 in. (approx.)

Weight

1.3 lbs. (with batteries)

Shelf Life

N/A

Accessories

N/A

Approvals

N/A

Manufacturer / Distributor

Graseby Dynamics, Limited
Fairfax, VA 22030
(703) 218-0380



Graseby, “Lightweight Chemical Detector” (LCD)
Chemical Warfare Agent, Detection, and Identification, Ion Mobility Spectrometry

Equipment Type:

Chemical Warfare Agent, Detection, and Identification, Ion Mobility Spectrometry

Make / Model:

ETG “Advanced Portable Detector (APD) 2000,” Chemical Agent Monitor / Detector

Description:

The APD-2000 is a hand-held, multi-purpose instrument designed to detect and discriminate between chemical warfare agent (nerve and blister) and riot control agent (Pepper Spray and Mace) in the field. System components include the detector unit; storage and carrying case; alkaline or rechargeable ‘C’ cell batteries, AC power adapter, and vehicle power adapter.

Features / Benefits

- Hand-held and lightweight
- User selectable “point source” or “area monitoring” operation
- Large, backlit LCD display, with audible alarm
- Rapid response and clear-down times
- Annual service available through the manufacturer

Specifications

- Detects and discriminates between nerve (G – series and VX) and blister (HD, HN3, and L) agent vapor, and pepper spray and mace at the minimum threshold shown:
 - Nerve agent / ‘G’ series – 15 ppb < 30 seconds, VX – 4 ppb < 30 seconds
 - Blister agent / HD and HN3 – 300 ppb < 15 seconds, L – 200 ppb < 15 seconds
- Operating temperature range: -22 °F to 126 °F
- Operates on internal batteries, external AC power, or 9 to 18 vdc

Size

4 in. x 3½ in. x 11 in.

Weight

6 lbs. (<3 kg) with batteries

Maintenance Requirements / Shelf Life

- Operator Service is equal to 5 minutes per 24 hours of operation
- Requires annual maintenance and “swipe testing” and NRC (or State equivalent) license for Nickle-63 source

Accessories

- Integrated radiation dosimeter; Data logging of all detection and monitoring events; Sample preservation; Remote telemetry via RF link

Approvals

N/A

Manufacturer / Distributor

Environmental Technologies Group, Inc.
Baltimore, MD 21284-9840
(410) 321-5200

The threat could be as big as an all out
chemical attack...

...or as small as
pepper spray.

Either way, the APD 2000
(Advanced Portable Detector)
from Environmental Technologies
Group, Inc., offers full detection
and monitoring capabilities.
The first device of its kind to
detect chemical warfare agents,
pepper spray and mace, the
APD 2000 was designed for both
battlefield and civilian emergency
first response.



APD2000



**Environmental
Technologies
Group, Inc.**

Chem/Bio Marketing Manager
1400 Taylor Ave., P.O. Box 9840
Baltimore, MD 21284-9840
(410) 321-5370 Fax (410) 339-3123

- ▶ **Detects warfare agents,
pepper spray and mace**
- ▶ **Selectable monitoring/detection**
- ▶ **Superior interferent
resistance**

**ETG “Advanced Portable Detector (APD) – 2000,” Chemical Agent Monitor / Detector
Chemical Warfare Agent, Detection, and Identification, Ion Mobility Spectrometry**

Equipment Type:

Chemical Warfare Agent, Detection, and Identification, Ion Mobility Spectrometry

Make / Model:

ETG “Fixed Site / Remote-Chemical Agent Detector” (FS/R-CAD)

Description:

The FS/R-CAD is a fixed or mobile sensor suite designed for use in the following applications: Force Protection, Perimeter Security, or Fixed-Site Monitoring as part of a remote detector network; mobile chemical warfare agent detection; and Hot Zone/Warm Zone monitoring. The FS/R-CAD employs the same detection and identification hardware and software as the APD-2000, with data transmission via RF-link, fiber-optic cable, or conventional hard-wire link.

Features / Benefits

- Custom enclosures available
- Simultaneous detection and identification of nerve and blister agents

Specifications

- Detects and discriminates between nerve (G –series and VX) and blister (HD, HN3 and L) agent vapor, and pepper spray and mace at the minimum threshold shown:
 - Nerve agent / ‘G’ series – 15 ppb < 30 seconds, VX – 4 ppb < 30 seconds
 - Blister agent / HD and HN3 – 300 ppb <15 seconds, L – 200 ppb <15 seconds
- Operating temperature range: -22 °F to 126 °F
- Operates on internal batteries, external AC power, or 9 to 18 vdc

Size

N/A

Weight

N/A

Shelf Life

Requires annual swipe testing and maintenance, and NRC (or State equivalent) license

Accessories

Radiation Detection capability, Meteorological sensors, Global Positioning System (GPS)

Approvals

N/A

Manufacturer / Distributor

Environmental Technologies Group, Inc.
Baltimore, MD 2103
(410) 321-5370

FIXED SITE REMOTE CHEMICAL AGENT DETECTOR

Utilizing proven military detection technology, the Fixed Site/Remote Chemical Agent Detector from Environmental Technologies, Inc., simultaneously detects and identifies nerve and blister agents and offers superior interferent rejection. It is easily transportable and can monitor fixed, mobile or remote locations. Detector alarm information may be transmitted via radio frequency, satellite, RS232, or hard-wired to a remote base station. The system is easily adaptable to custom applications and configurations. Additional system options include radiation detection, GPS, and/or meteorological sensors.



**Environmental
Technologies
Group, Inc.**



FEATURES

- ▶ Simultaneous nerve and blister agent detection
- ▶ Agent identification
- ▶ Alarm signals transmitted via RF, satellite, RS232 or hard-wired
- ▶ Custom applications and enclosures
- ▶ Optional radiation detection, GPS, meteorological sensors

FIXED/MOBILE SENSOR SUITE

Contains all available options:
Radiation Detector, GPS, and
Meteorological Sensors

APPLICATIONS

- ▶ Force protection
- ▶ Fixed installation monitoring
- ▶ Perimeter security
- ▶ Remote detector network
- ▶ Mobile detection
- ▶ Decon hot/warm zone monitoring

Chem/Bio Marketing Manager
1400 Taylor Ave., P.O. Box 9840
Baltimore, MD 21284-9840
(410) 321-5370 Fax (410) 339-3123

ETG "Fixed Site / Remote-Chemical Agent Detector" (FS/R-CAD) –
Chemical Warfare Agent, Detection, and Identification, Ion Mobility Spectrometry

DETECTION EQUIPMENT:
Flame Spectrophotometry Instruments

Equipment Type:

Chemical Warfare Agent, Detection, and Identification, Flame Spectrophotometry

Make / Model:

AP2C, Automatic Chemical Warfare Agent Detector Kit

Description:

This is a portable, hand-held detector designed for field detection (area monitoring, or point sampling) of chemical warfare agent. The system comprises the AP2C Detector, S4PE Gun with SP4E Sample Scrapers (for liquid sampling), Hydrogen (H²) storage device, Sampling tube, Users Technical Manual, and Carry-bag/harness.

Features / Benefits

- Simple to use, one-button turn on
- Color coded instruction label on unit
- Rapid detection of agent
- Rapid clearing after detection of high level of agent
- Dual sensors provide simultaneous detection of nerve and blister agent vapor
- Easy-to-read Light Emitting Diode (LED) display

Specifications

- Detection of chemical agent vapor at the minimum threshold shown:
 - GB – 1.5 ppb, VX – 1.4 ppb, HD – 63 ppb
- 12 hours of continuous operation per battery / hydrogen container

Size

15.5 in. (L) x 3.1 in. (W) x 5.6 in. (H) (approx.)

Weight

4.4 lbs. with batteries

Shelf Life

N/A

Accessories

N/A

Approvals

N/A

Manufacturer / Distributor

GIAT-Centech Group
Arlington, VA 22203
(703) 525-4444

Mine Safety Appliances
Pittsburgh, PA 15230-0428
(800) 672-2222
www.MSAnet.com

DETECTION EQUIPMENT:
SAW MiniCAD

Equipment Type:

Chemical Warfare Agent, Detection, and Identification, Sonic Acoustic Wave

Make / Model:

MicroSensor, Surface Acoustic Wave Miniature Chemical Agent Detector (SAW MiniCAD)
Mk II

Description:

The SAW MiniCAD, Mk II is a portable, area type air sampler. It features automatic operation, low and high detection levels, audible alarm, and LED display for vital functions. Components include a “Pelican” storage container, users guide, external 6.3v sealed battery pack (with soft case), 120v, 60hz AC charger, detector unit with soft case and shoulder strap, RS232 serial communication cable (6-pin, male, mini DIN / DB-9 connector), and Vapor Confidence Check Source.

Features / Benefits

- Dual sensors provide simultaneous detection of nerve and blister agent vapor
- LED display for “System Check,” “All Clear,” “Low Battery,” and agent alarm

Specifications

- Detection of chemical agent vapor at the minimum threshold shown:
 - GD – 0.1 mg/m³, GA – 0.2 mg/m³, GB – 0.5 mg/m³, HD – 1.0 mg/m³
- 2-minute warm up, 60-second response times
- Operates 3 hours on four internal lithium batteries, 6 hours on external battery
- Operating temp / humidity: +5 °C to +40 °C / 0% to 95% non-condensing

Size

5.25 in. x 4.25 in. x 1.25 in.

Weight

15 oz. with batteries

Shelf Life

5 years

Accessories

N/A

Approvals

N/A

Manufacturer / Distributor

Microsensor Systems, Inc.
Bowling Green, KY 42103
(502) 745-0099



SAW MiniCAD Area Monitor

**MicroSensor, SAW MiniCAD Mk II –
Chemical Warfare Agent, Detection, and Identification, Sonic Acoustic Wave**

DETECTION EQUIPMENT:
Multi-Gas Monitors

Equipment Type:

Multi-Gas Monitoring

Make / Model:

BioSensors, “Cannonball 1700 Series” 4-Gas Detection Monitor

Description:

This is a portable monitor that can simultaneously monitor up to four atmospheric hazards. The monitor is housed in a ruggedly built, watertight body. The kit includes a storage / carrying case, shoulder strap, sampling draw system, rechargeable “gel-cell” battery and charger, and waterproof connector for an optional remote alarm. The monitor may also run on four alkaline D-cell batteries.

Features / Benefits

- Rapid response time
- Automatic backlit, LCD display
- One button control

Specifications

- User adjustable alarms, monitors
- Combustible gas – when gas level exceeds preset alarm point
- Oxygen level – High and Low levels
- Carbon monoxide and Hydrogen sulfide – up to three alarm levels, ceiling, Time-Weighted Authority (TWA) and Short-Term Exposure Limit (STEL)
- Continuous sample draw pump with automatic liquid alarm and shutoff, prevents internal liquid contamination of meter
- Stores sample data in memory, downloadable to a PC

Size

9¼ in. x 6½ in. x 6 in.

Weight

6 lbs.

Shelf Life

N/A

Accessories (available at extra cost)

Calibration kits and gas, remote alarm, battery charger, and computer link kit

Approvals

N/A

Manufacturer / Distributor

Biosystems, Inc.
Middlefield, CT 06455
(203) 344-1079

Vallen Safety Supply Co.
Houston, TX 77040
(713) 462-8700

Equipment Type:

Multi-Gas Monitoring / Photo-Ionization Detector (PID)

Make / Model:

Rae Systems, "Multi-Rae"

Description:

This is a lightweight, compact, point or area sampler. The unit will simultaneously monitor oxygen level, combustible gas / Low Explosive Limit (LEL), presence of volatile organic compounds, and up to two user-defined toxic gases. Sample data may be stored internally and downloaded to a PC. The kit includes the Sampler / Meter with 10.6 eV lamp, wrist and shoulder strap, and belt loop and rechargeable Ni-Cd battery pack. The monitor may also run on four AA alkaline batteries.

Features / Benefits

- Programmable alarms
- Easy to operate, one button calibration
- Rugged construction

Specifications

- Internal sample pump, flow rate = 150 cc/min
- Monitors and displays: Combustible gas / 0 to 100% LEL, Oxygen level / 0 to 30
- VOCs 0 to 2000 ppm and up to two user defined toxic gases
- 90 dB audible and visual alarms
- One operation and two programming keys
- 10-hour continuous run time, may recharge and run simultaneously

Size

4.65 in. (L) x 3.0 in. (W) x 1.9 in. (H)

Weight

1 lb. with battery

Shelf Life

Lamp life varies with lamp voltage and usage, replacement intervals range from 2 to 24 months

Accessories

Calibration kits, External battery Charger, Automotive charging adapter, 15-ft. sample tube and remote sample probe, 11.6 eV lamp, Vibration Alarm, Earphone, Additional sensors, and Confined Space Kit

Approvals

N/A

Manufacturer / Distributor

Rae Systems
Sunnyvale, CA 94086
(408) 481-4999

Vallen Safety Supply Co.
Houston, TX 77040
(713) 462-8700

Photo-Ionization Detector (PID)



H86-7

**Rae Systems, “Multi-Rae” –
Multi-Gas Monitoring / Photo-Ionization Detector (PID)**

DETECTION EQUIPMENT:
Radiation Detection (Survey Instruments)

Equipment Type:

Radiation Detection / Survey

Make / Model:

Ludlum, Model 2241-2, Scaler / Ratemeter

Description:

The Model 2241-2 is a hand-held, general purpose survey meter. It is used to detect and measure gamma radiation and alpha-emitting contamination, and detect beta-emitting contamination. The system components include the Model 2241-2 Digital Scaler / Ratemeter, Model 44-6 Beta-Gamma G-M Detector, Model 44-9 Pancake G-M Detector, D-cell alkaline batteries, headphones, and a storage / carrying case.

Features / Benefits

- Aluminum housing with beige polyurethane enamel paint
- Backlit, four-digit LCD display includes “low battery” alert
- Two detector setup, allows interchangeable use of two probes with one meter
- Audible alert / alarm
- Automatic ranging, reduces potential for meter “flooding”

Specifications

- Accuracy is $\pm 10\%$ of true value with detector connected
- Operating temperature range is -4°F to 122°F
- Display in R/hr, Sv/h, cpm or cps when set in RATEMETER position
- Battery life / typically 200 hours with two “D” cell alkaline batteries

Size

Model 2241-2 – 6.5 in. (H) x 3.5 in. (W) x 8.5 in. (L)

Weight

3.5 lbs. with batteries

Shelf Life

N/A; however, periodic calibration with probes is required

Accessories

- Straight or coiled cables
- Headset
- Check source and holders
- Carrying case (Pelican or Airmold)
- Shoulder strap

Approvals

N/A

Manufacturer / Distributor

Ludlum Measurements, Inc.
Sweetwater, TX 79556
(800) 622-0828

Atlantic Nuclear Corp.
Canton, MA 02021
(617) 828-9118

Model 2241-2

DIGITAL SCALER/RATEMETER



H66-5

**Ludlum, Model 2241-2, Scaler / Ratemeter –
Radiation Detection / Survey**

Equipment Type:

Radiation Detection / Survey

Make / Model:

Ludlum, Model 44-6 Geiger-Mueller (G-M) Detector Probe

Description:

The Model 44-6 G-M Detector is used for beta-gamma survey. It may be used for general area or point survey and personnel monitoring. It is used with the Model 2241-2 scaler / ratemeter. Operating voltage is supplied by the scaler / ratemeter. The probe is constructed of thin wall, polished stainless steel. The probe cable comes standard with a "C" series connector; other styles are available on request.

Features / Benefits

- Lightweight
- Durable construction and finish

Specifications (Model 44-6)

- G-M tube
- Beta-gamma survey sensitivity typically 1200 cpm/mR/hr
- Operating voltage is 900v

Size

6 in. (L) x 1.2 in. (D)

Weight

1 lb.

Shelf Life

N/A, however requires periodic calibration with scaler / ratemeter

Accessories

Straight or coiled cables

Approvals

N/A

Manufacturer / Distributor

Ludlum Measurements, Inc.
Sweetwater, TX 79556
(800) 622-0828

Atlantic Nuclear Corp.
Canton, MA 02021
(617) 828-9118

Model 44-6

THIN WALL G-M DETECTOR



H88-4

**Ludlum, Model 44-6 Geiger-Mueller (G-M) Detector Probe –
Radiation Detection / Survey**

Equipment Type:

Radiation Detection / Survey

Make / Model:

Ludlum, Model 44-9 Pancake G-M Detector Probe

Description:

The Model 44-9 Pancake G-M Detector is used primarily to detect and measure alpha contamination. It is used with the Model 2241-2 scaler / ratemeter. It may be used for general area or point survey, or for personnel monitoring. Operating voltage is supplied by the scaler / ratemeter. The pancake probe is constructed from painted aluminum.

Features / Benefits (Model 44-9)

Lightweight, easy to use

Specifications (Model 44-9)

- G-M tube
- Alpha, beta-gamma survey sensitivity typically 3300 cpm/mR/hr
- Operating voltage – 900v

Size

1.8 in. (H) x 2.7 in. (W) x 10.7 in. (L)

Weight

1 lb.

Shelf Life

N/A, however requires periodic calibration with meter

Accessories

Straight or coiled cables

Approvals

N/A

Manufacturer / Distributor

Ludlum Measurements, Inc.
Sweetwater, TX 79556
(800) 622-0828

Atlantic Nuclear Corp.
Canton, MA 02021
(617) 828-9118

Model 44-9

PANCAKE G-M
DETECTOR



H66-3

**Ludlum, Model 44-9 Pancake G-M Detector Probe –
Radiation Detection / Survey**

Equipment Type:

Radiation Detection / Survey

Make / Model:

MGP, DMC-2000 Series, Electronic Dosimeter

Description:

The DMC 2000 Series electronic dosimeter may be used as an area monitor, or to measure “whole body” exposure to ionizing radiation. It measures flat energy response to X-rays and gamma fields from 60 KeV to 6MeV, and linear response to dose rate fields of one mR/hr to 1000 mR/hr. The DMC 2000 series dosimeters may be used as a standalone device or integrated into a dosimetry system.

Features / Benefits

- Compact size, comparable to a personal pager
- 2,000 hour (1 year) continuous use with a standard calculator battery
- Audible and visual alarms
- Display units include uSv, mSv, mrem or cGy
- Water-proof, shock, drop, and vibration resistant

Specifications

- Accuracy is $\pm 5\%$
- Measurement range – 0.1 mrem to 1,000 rem
- Operating temperature range is 14 °F to 122 °F
- Operating humidity – up to 90%

Size

3.3 in. x 1.9 in. x 0.7 in.

Weight

2 oz. (w/battery)

Shelf Life

N/A

- Requires periodic calibration

Accessories / Related Items

- Dosimeters:
 - DMC 2000S – X and Gamma (60keV to 6 MeV)
 - DMC 2000X – X and Low-energy Gamma (20keV to 6MeV)
 - DMC 2000XB – X, Low-energy Gamma, and Beta (Deep-dose/Shallow-dose, 20keV to 6MeV)
- Dosimeter Readers:
 - LDM 91 (Standalone Reader Station)
 - LDM 101 Dosimeter Reader (requires interface with PC)
 - LDM 2000 Dosimeter Reader (Pass-by data exchange)
- Dosimeter Calibrators:
 - CDM 21 – Manual operation, or with optional robotic arm for automated operation
 - IRD 2000 – Source check and recalibration

- Wireless Remote Monitors:
 - WRMP*lus* Receiver – Base station and teledosimetry applications
 - WRM 2400 Receiver – Base station and telemdosimetry applications
 - CTM 2000 Transmitter – Personal teledosimetry and area monitoring with DMC 2000
 - CTM 2000E Transmitter – Personal teledosimetry and area monitoring with DMC 2000
- Area Monitor:
 - AM 16 – Remote area monitoring applications
 - IM 2000 – DMC 2000 interface module for remote monitoring applications
 - EAM 100 – DMC 2000 external alarm amplifier for remote area monitoring applications
- DOSISYS Software:
 - DOSIMASS – DMC 2000 and LDM 2000 maintenance and setup
 - MPGAC – Online access control
 - DOSIVIEW – Access control and geographic features/location tracking
 - TELEVIEW – Teledosimetry and area monitoring
 - WINWRM – Teledosimetry only
 - DOSICAL – Dosimeter calibration and reporting
 - CDM 2000 – Dosimeter calibration and reporting with the CDM 21

Approvals

N/A

Manufacturer / Distributor

MGP Instruments, Inc
 Smyrna, GA 30082
 (770) 432-2744
www.mgpi.com

MGP Electronic Dosimetry System



**MGP, DMC-2000 Series, Electronic Dosimeter –
Radiation Detection / Survey**

Equipment Type:

Radiation Detection / Survey

Make / Model:

Dosimeter Corporation, Self-Reading Dosimeter, Model # 862

Description:

The dosimeter is used to measure “whole body” exposure to ionizing radiation. It is a hermetically sealed, pocket type quartz-fiber electroscope. It features a cumulative, direct reading, 0-200 mRem scale. It requires the use of a charging device to charge the dosimeter and zero the scale prior to possible exposure.

Features / Benefits

- Easy to charge and use
- Accurate and rugged

Specifications

- Calibration Accuracy is $\pm 10\%$ @ mid-scale
- Rate dependence is $\pm 5\%$ up to 10,000 R/h
- Electrical leakage = 2% per day maximum at room temperature
- Operating temperature range is -20°F to 130°F
- Operating humidity – up to 98%

Size

$\frac{1}{2}$ in. (D) x $4\frac{1}{2}$ in. (L)

Weight

1.25 oz.

Shelf Life

Requires periodic calibration and leak testing

Accessories

Dosimeter charger (Jordan Electronics Model V-750) with D-cell alkaline battery

Approvals

N/A

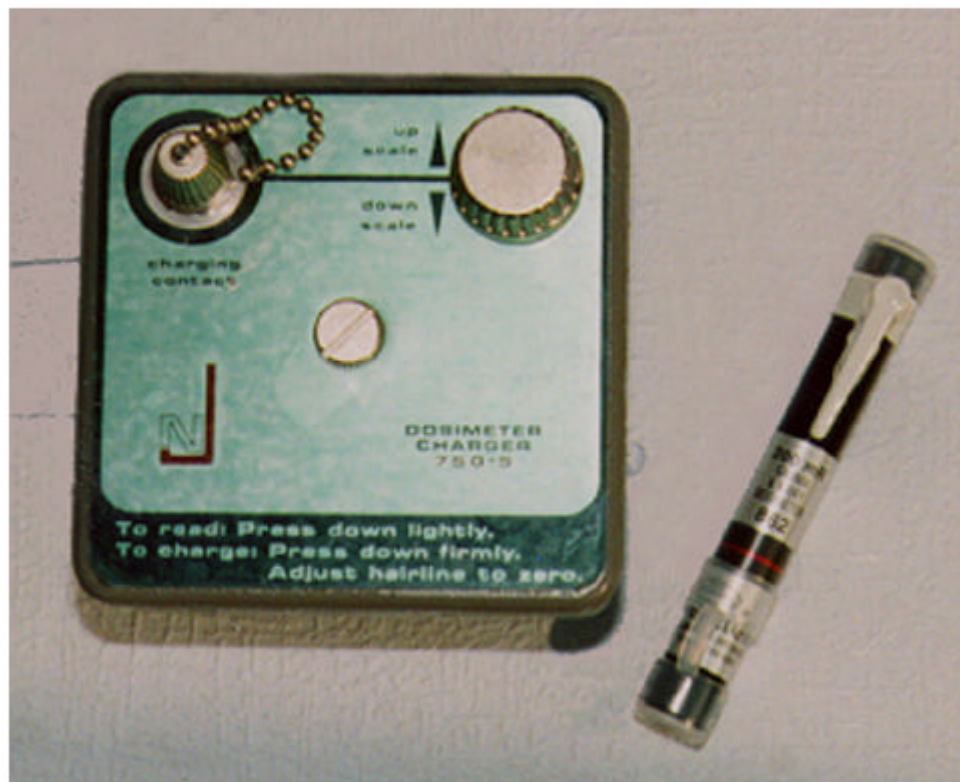
Manufacturer / Distributor*Dosimeter:*

Dosimeter Corporation
Cincinnati, OH 45242
(513) 498-8100

Dosimeter Charger:

Atlantic Nuclear Corp.
Canton, MA 02021
(617) 828-9118

Self-Reading Dosimeter



H66-29

**Dosimeter Corporation, Self-Reading Dosimeter, Model # 862 –
Radiation Detection / Survey**

Equipment Type:

Radiation Detection / Survey

Make / Model:

Landauer, Thermoluminescent Dosimeter (TLD), Type W8

Description:

This is a “wallet card” sized, film badge-type device used to measure “whole body” exposure to ionizing radiation. It is a completely passive device requiring no pre-use service by the user. The device contains two 100-percent lithium fluoride TLDs (chips), protected within a durable laminated finish. Requires lab or other specialized facility to “read” the badge and report exposure levels.

Features / Benefits

- Small, inconspicuous and unobtrusive, always on the job
- Clip to outer clothing or carry underneath

Specifications

Exposure range for standard badge is 30 m/rem to 1,000 rad for gamma and X radiation

Size

See attached

Weight

N/A

Shelf Life

Requires annual replacement of chip(s)

Accessories

- May be customized with up to four chips and indium foil
- May be customized to discriminate for beta radiation
- Custom logo's available

Approvals

NVLAP accredited for category 1 and 2 accidents (high and low energy photons)

Manufacturer / Distributor

Landauer, Inc.
Glenwood, IL 60425-1586
(708) 755-7000

Thermoluminescent Dosimeter (TLD)



H86-32

**Landauer, Thermoluminescent Dosimeter (TLD), Type W8 –
Radiation Detection / Survey**

DETECTION EQUIPMENT:
Biological Agent – Detection and Identification

Equipment Type:

Biological Warfare Agent, Detection, and Identification

Make / Model:

Environmental Technologies Group, Inc. (ETG) Sensitive Membrane Antigen Reactive Test (SMART) Tickets

Description:

This kit provides capability for rapid detection of the generic presence of bacteria and biological toxins, and identification of specific bacteria and biological toxins. The kit consists of a sample collection component, a handheld instrument for detection of generic bacteria, a hand-held photometer for detection of proteinaceous toxins, and individual immuno-chemistry (SMART) tickets for specific biological agent, detection, and identification.

Features / Benefits

- Rapid response time: 5 to 15 minutes
- Easy to use and read, minimal operator training required

Specifications

Identifies; Anthrax, Staphylococcal Enterotoxin 'B' (SEB), Y-Pestis (Plague), Botulinum Toxin (Bot Tox), Venezuelan Equine Encephalitis (VEE), and Brucella

Size

N/A

Weight

N/A

Shelf Life

N/A

Accessories

Training version available

Approvals

Similar technology currently in use with U.S. military forces

Manufacturer / Distributor

Environmental Technologies Group, Inc.
Baltimore, MD 21284-9840
(410) 321-5200

For fast, precise biological detection,

ETG has just the ticket

Identify biological agents with convenient SMART™ Biological Warfare Agent Detection Tickets from Environmental Technologies Group, Inc. Each SMART ticket employs patented immuno-chemistry tests for specific biological agents.



SMART BIOLOGICAL WARFARE AGENT DETECTION TICKETS



**Environmental
Technologies
Group, Inc.**

Chem/Bio Marketing Manager
1400 Taylor Ave., P.O. Box 9840
Baltimore, MD 21284-9840
(410) 321-5370 Fax (410) 339-3123

- ▶ Quickly identifies agents
- ▶ Requires minimal training
- ▶ Prepare samples in minutes

**ETG Sensitive Membrane Antigen Reactive Test (SMART) Tickets –
Biological Warfare Agent, Detection, and Identification**

Equipment Type:

Biological Warfare Agent, Detection, and Identification

Make / Model:

ETG “Bio-Detector”

Description:

The “Bio-Detector is a civilian variant of the Biological Integrated Detection System (BIDS), currently in use with the U.S. Armed Forces. The “Bio-Detector” provides an on-demand, in-the-field capability for the rapid detection and identification of specific biological warfare agents.

Features / Benefits

- Simultaneously detects up to eight different bio-agents
- 15-minute response time
- Audible and visual detection alarms
- Fully automated

Specifications

- 14-hour, continuous run time
- List of Bio-agents Identified available from the manufacturer
- Power requirements –

Size

24 in. x 24 in. x 30 in.

Weight

135 lbs. (approx.)

Shelf Life

N/A

Accessories

N/A

Approvals

Similar technology currently in use with U.S. military forces

Manufacturer / Distributor

Environmental Technologies Group, Inc.
Baltimore, MD 21284-9840
(410) 321-5200

BIO DETECTOR



Jointly developed and field-tested by ETG and the U.S. Army, the Bio Detector simultaneously detects up to eight different agents. Additional tests can easily be incorporated to detect new threats. The Bio Detector can run continuously for 14 hours, and emits both an audible and visual alarm when a threat is detected.

- ▶ **Highly Automated**
- ▶ **Easy To Use**
- ▶ **Fast**



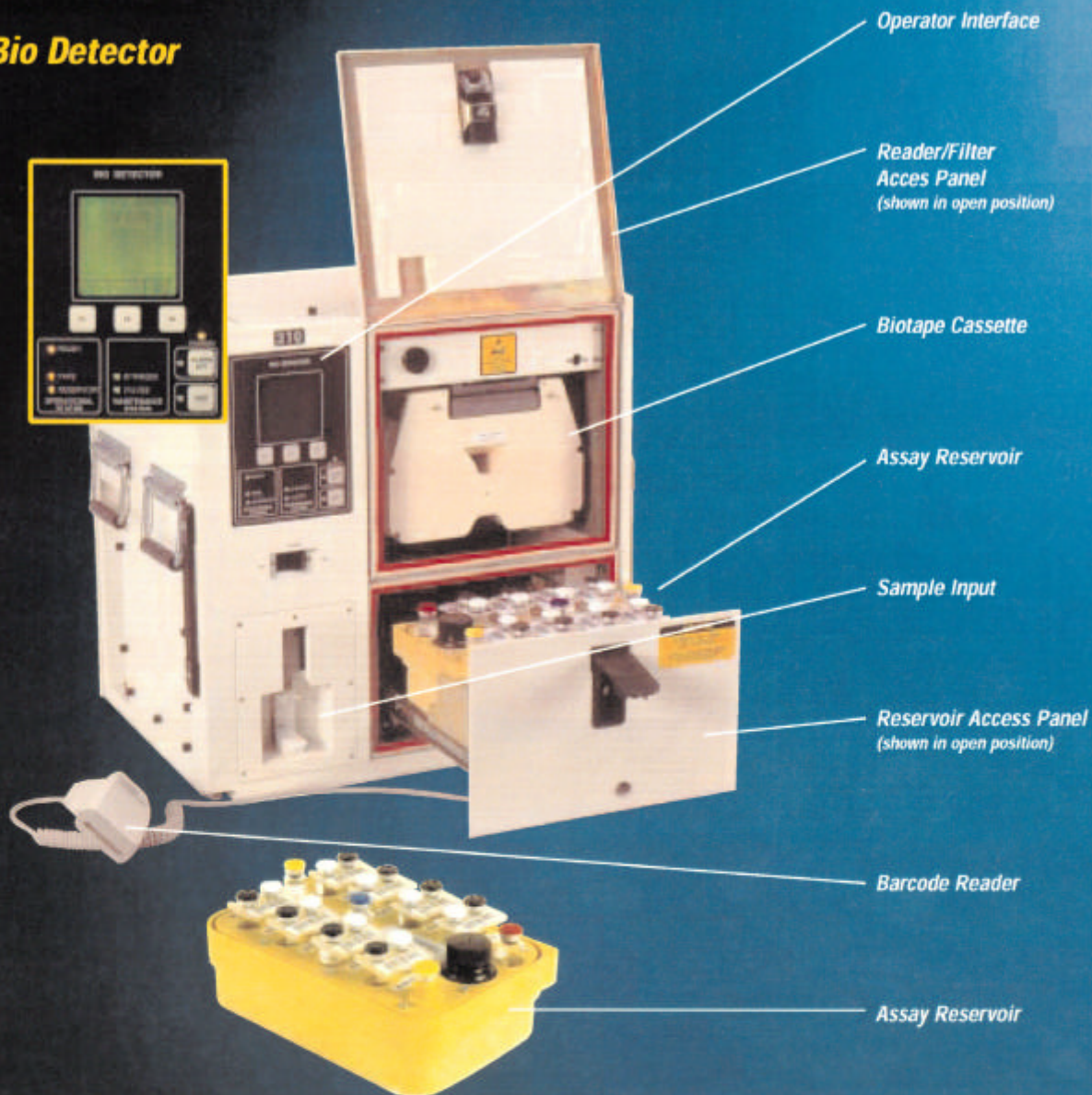
CERTIFIED
ISO 9001



**Environmental
Technologies
Group, Inc.**

**ETG “Bio-Detector” –
Biological Warfare Agent, Detection, and Identification**

Bio Detector



Features

- ▶ Simultaneously detects up to eight different biological warfare agents
- ▶ Fully automated
- ▶ 15-minute response
- ▶ Low detection limits
- ▶ >95% detection probability
- ▶ <0.1% false alarm rate
- ▶ Rapidly incorporates tests for new threats
- ▶ Barcode design quickly introduces new reagents
- ▶ Ergonomic, efficient design
- ▶ Portable and rugged

ETG "Bio-Detector" –
Biological Warfare Agent, Detection, and Identification (Continued)

DETECTION EQUIPMENT:
NBC Event – Consequence Management

Equipment Type:

Weapons of Mass Destruction (WMD) / Nuclear, Biological, and/or Chemical (NBC) Agent, Detection / Survey

Make / Model:

NBC, Advanced Consequence Management System (ACMS)

Description:

The NBC-ACMS integrates NBC agent detection and identification equipment with hardware and software that performs personnel location tracking, asset/resource tracking, on-scene agency tracking, communications net information, vapor-plume modeling, and meteorological monitoring functions. The system provides the Incident Command System (ICS) / Incident Commander (IC) with the real-time, critical, information required for effective, WMD-NBC-event consequence management.

Features / Benefits

- Up to 2-kilometer (1.2-mile) range
- Broad agent coverage for NBC threats

Specifications

See appropriate page for each piece of equipment

Weight

See appropriate page for each piece of equipment

Size

See appropriate page for each piece of equipment

Shelf Life

See appropriate page for each piece of equipment

Accessories / Related Items

- Minimum System Operating Requirements
- Optimal System Operating requirements
- Basic Components:
 - Hardware:
 - Two ea – Advanced Portable Detector (APD)-2000 Chemical Warfare Agent Detectors
 - Five ea – DMC 2000 Series electronic dosimeters
 - One ea – LDM 2000 Dosimeter reader/personnel; marker
 - Four ea – Wireless data extenders
 - Software:
 - Consequence Management Board (CMB) database
 - “MIDAS Plume Generation” or “MIDAS AT Plume Generation, Tracking, and Modeling”
- Optional Hardware / Sensors
- CTM 2000 Transmitters
- WRM (*Plus* or 2400)
- SMART Tickets
- Automated Bio-Detector
- “MultiRad” Radiological Survey Package
- FPD 2000 Fixed Site Chemical Agent Detector
- Meteorological Sensors

Approvals

N/A

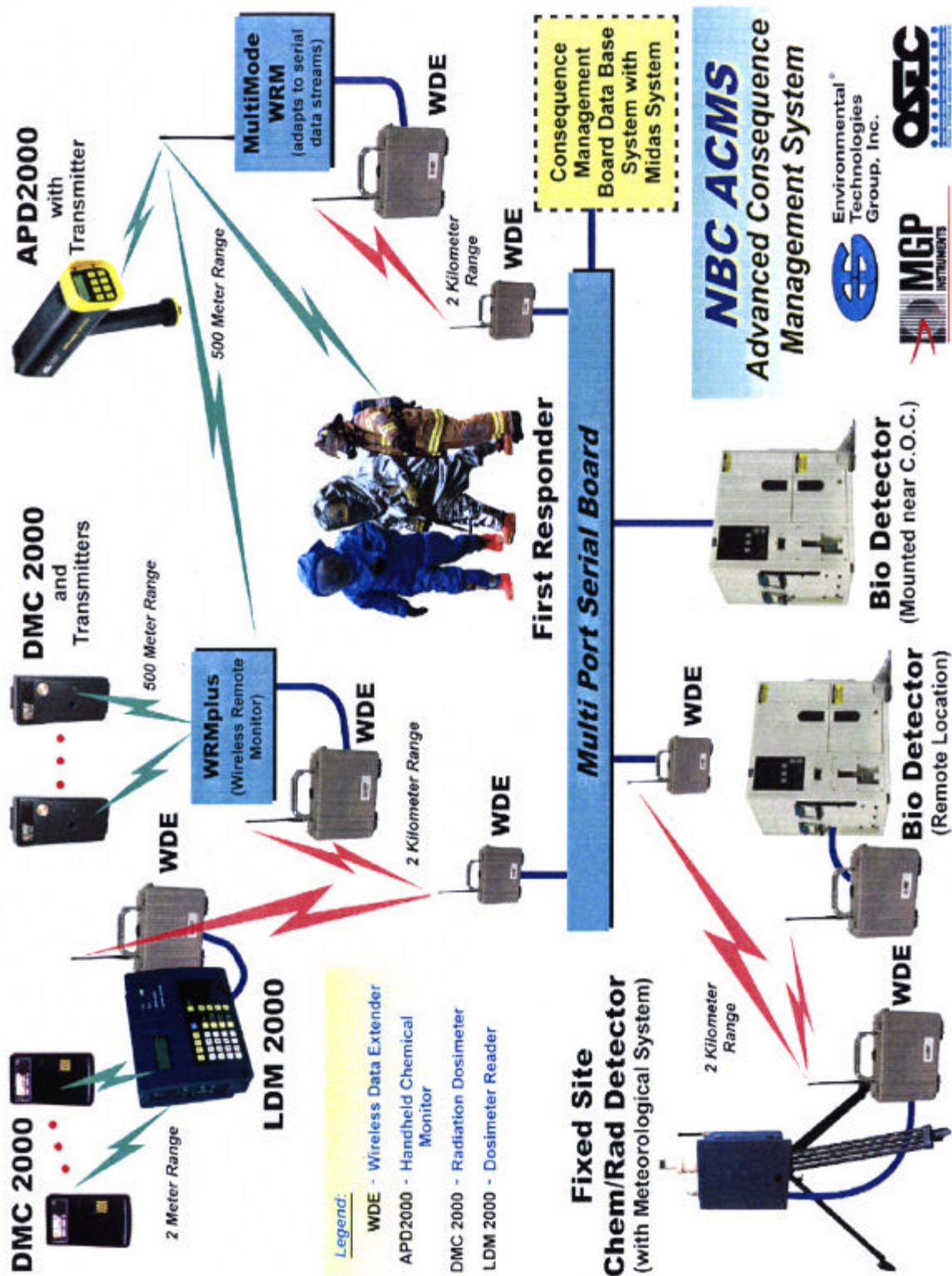
Manufacturer / Distributor

Environmental Technologies Group, Inc.
Baltimore, MD 21284-9840
(410) 321-5370

MGP Instruments, Inc
Smyrna, GA 30082
(770) 432-2744

Ocean Systems Engineering Corp.
Oceanside, CA 92056
(760) 722-3222

www.mgpi.com



NBC, Advanced Consequence Management System (ACMS) –
WMD/NBC Agent, Detection / Survey

DECONTAMINATION EQUIPMENT

DECONTAMINATION EQUIPMENT:
Mass Decontamination Systems

Equipment Type:

Mass Casualty Decontamination Systems

Make / Model:

Advanced Containment Systems, Inc. (ACSI), Mass Casualty Decontamination System

Description:

Custom designed and built, transportable systems including trailer mounted systems ranging in size from 12 ft. to 60 ft., and standalone land-based or shipboard buildings / rooms. All systems offer custom electrical and plumbing designs, water and chemical resistant interiors, negative-pressure or positive-pressure ventilation, air and run-off filter systems, variety of holding tanks / bladders, and automatic injection systems incorporated with the shower systems for pre-mixed decontamination or soap solution.

Features / Benefits

- Self-contained system
- Rapidly deployable
- Fixed-site or mobile, large-scale decontamination capability

Specifications

N/A

Size

Customer specifications from 12 ft. to 60 ft.

Weight

N/A

Shelf Life

N/A

Accessories

- Contact manufacturer for complete list of accessory items and manufacturing options
- Other design / application options include mobile command posts and mobile laboratories
- Modular Mass-casualty Decontamination System / components (air-beam shelters, Lp water heater, and vertical shower booms / nozzles)

Approvals

N/A

Manufacturer / Distributor

Advanced Containment Systems, Inc.
Houston, TX 77075
(800) 927-2271
www.acsi.com



Exterior stainless steel sink, recessed into the side of the unit and plumbed to the holding tank.



Chemical resistant, non-slip, poured epoxy floors are covered up the seamless FRP walls to provide an interior that will contain hazardous liquids. Stainless steel trough drains with grating provides large drainage areas to contain and separate the runoff. Troughs are easier to get wheeled apparatus across than a raised dam. Floors can be multi colored to aid in organizing the decon process.

- SALES
RENTALS
&
SERVICE**
- Custom In-House Construction
 - Designs for Special Applications (Chemical, Nuclear, Biological, Etc.)
 - Sizes From 12' to 60'
 - Water and Chemical Resistant Interiors
 - Custom Electrical and Plumbing Designs
 - Negative or Positive Pressure Systems
 - Large Chemical Resistant Holding Tanks and Bladder Bags



ACSI, Mass Casualty Decontamination System

Equipment Type:

Mass Casualty Decontamination Systems

Make / Model:

MODEC, Mass Casualty Decontamination System

Description:

Standard or custom designed, mobile truck or trailer mounted platforms that can deliver up to 4,000 gallons per hour of heated decontamination solution and fresh rinse water. Various systems offer automated decontamination solution injector system, expandable foldouts with hose bibs and reels, interior and exterior decontamination stations, onboard fresh water storage and “gray-water” capture and holding tanks, and a contaminated clothing chute for packaging clothing.

Features / Benefits

- Self-contained system
- Rapidly deployable
- Large-scale decontamination capability

Specifications

Common system components include three-part chemical resistant, seamless, epoxy flooring; seamless, chemical resistant foam injected walls; aluminum gurney ramps; fold-down stainless steel tables; enclosed external modesty barriers; six-port manifold with cascade bottle air system; and climate controlled interior

Size

Various

Weight

Various

Shelf Life

N/A

Accessories

- Choice of external air-beam shelters; UV and HEPA H-VAC systems
- Contact manufacturer for list of current accessory items and available options

Approvals

N/A

Manufacturer / Distributor

MODEC, Inc.
Denver, CO 80022
(303) 286-1546
www.massdecon.com



MODEC, Mass Casualty Decontamination System

DECONTAMINATION EQUIPMENT:
Modular Mass Decontamination Systems

Equipment Type:

Modular Mass Casualty Decontamination Systems

Make / Model:

TVI, Modular Mass Casualty Decontamination Systems

Description:

The TVI systems are lightweight, portable, and rapidly deployable. The system components may be stored and transported in a dedicated trailer, or prime mover (Truck, Squad, or Engine, etc.). The TVI system is comprised of the “Quik-Fire” diesel-fired flash hot water heater, user-selectable choice of PVC, copper, or stainless steel plumbing, high-pressure, quick disconnect hoses, hand operated Flex wands for supplemental decontamination, runoff containment berms, and a variety of user selectable, rigid articulating frame, rapid deployment shelters.

Features / Benefits

- Self-supporting, rapid setup shelters require no external power source, blowers, or air source
- All shelters offer side entry ports to reduce “wind-tunnel” effect
- All shelters may be “complexed” for custom configuration
- System is self-contained (except for water), for rapid deployment
- Quik-Fire heater includes 5 gal. onboard fuel, and quick-connect fuel bib for external fuel source

Specifications

- Quik-Fire Flash Heater: 30 cu. ft. (approx.); weighs 245 lbs. (approx.); heats 48 °F water to 86 °F at 950 gph flow; user adjustable fluid injection system preset for 0.5% bleach, may be reset for soap solutions or other solutions; requires #1 or #2 diesel fuel or kerosene.
- 4x4 Decontamination Shelter: 11.5 ft. interior width and various lengths (13 ft., 17 ft., 21 ft.) provides space for four simultaneous shower lines. Includes replaceable liner, interior curtains, fitted floor basin, and ports and hangers for shower hoses and booms.
- 2x6 Decontamination Shelter: 9.0 ft. interior width and various lengths (13 ft., 17 ft., 21 ft.) provides space for two simultaneous shower lines. Includes replaceable liner, interior curtains, fitted floor basin, and ports and hangers for shower hoses and booms.
- All TVI rigid frame shelters include a storage/transport bag, ground cloth, and anchor kit. All shelters provide high load rates and will remain standing with 30-percent frame damage (if properly anchored). Shelter fabric is fire retardant and UV stabilized for long life.

Weight

- Quik-Fire Flash Heater: 245 lbs. (approx.) on wheeled cart
- Shelters are dependant on width and length selected, average is 250 lbs. (approx.)

Shelf Life

N/A

Approvals

N/A

Manufacturer / Distributor

TVI Corporation
Glendale, MD 80022

Accessories / Related Items

- High Efficiency Particulate Air (HEPA)-rated air filtration system
- Positive-pressure or negative-pressure Heating, Ventilation, and Air-Conditioning (HVAC) system
- Specialty trailers w/generators and light sets
- Replacement parts for all system components
- Quick-erect scene management markers and barricades

(800) 598-9712 / www.tvicorp.com



TVI, Modular Mass Casualty Decontamination Systems

Equipment Type:

Modular Mass Casualty Decontamination Systems

Make / Model:

Reeves / MODEC, Modular Mass Casualty Decontamination System (MCDS)

Description:

The Reeves / MODEC modular system is portable and offers rapid setup capability. The basic system components include the Modular MCDS-unit; a Reeves “Airshelta,” inflatable air-beam shelter with removable flooring for “berm-style” runoff containment; and two stainless steel booms with three shower heads on each boom.

Features / Benefits

- Self-contained system (except for water)
- Rapidly deployable
- Solid state electronic ignition in MCDS activates upon water flow
- Adjustable siphon jet injection system delivers bleach or soap decontamination solutions at constant dilution ratio
- Power vented exhaust vents towards the hot zone

Specifications

- MCDS configured to operate on LP gas, may be configured to operate on other fuels (diesel fuel, natural gas, or kerosene)
- Input pressure / fitting size – up to 300 psi., 1½” fire hose fitting
- Output pressure – 70 psi
- Output flow / temperature – 530 gph @ 96 °F, adjustable up to 105 °F

Size

- MCDS – 48 in. x 24 in. x 16 in.
- “Airshelta” – 12 ft. x 12 in. x 9 ft.

Weight

- MCDS – information not available at time of printing
- “Airshelta” – 240 lbs. (approx.)

Shelf Life

N/A

Accessories

- Flow-thru Decontamination Brush
- Hand-held sprayer
- Accordion style roller systems for the decontamination of litter patients
- “Airsheltas” are available in larger sizes, and may be constructed to customer specifications
- Contact manufacturer for complete list of accessory / optional items that are available

Approvals

N/A

Manufacturer / Distributor

MODEC, Inc.
Denver, CO 80022
(303) 286-1546 / www.massdecon.com

Reeves Manufacturing, Inc.
Fredrick, MD 21701
(800) 328-5563 / www.reevesmfg.com



Reeves / MODEC, Modular Mass Casualty Decontamination System (MCDS)

Equipment Type:

Modular Mass Casualty Decontamination Systems

Make / Model:

Air-Lite, Decontamination Shower and Hot Water Systems

Description:

This is a portable, easy to set up decontamination shower designed for use with hazardous materials (HAZMAT) or other rapid response teams. The shower framework and plumbing is PVC pipe with quick-connect unions, the shower outer fabric is urethane coated nylon. The shower breaks down for easy storage and transport in a nylon duffel bag.

The Hot-Water system is LP gas fired, designed to provide a maximum temperature increase of 90 °F, to a maximum temperature of 140 °F. The water supply is provided via a manifold reducer that allows use with standard fire apparatus or garden hose style intake.

Features / Benefits

- Shower System:
 - Includes nine adjustable jet-spray nozzles and one hand-held spray nozzle
 - Garden hose style connection with on/off valve
 - Double-door system allows for complexing of multiple units
- Stainless Steel Hot-Water System operates two decontamination shelters (wash and rinse)

Specifications

- Hot-Water System:
 - 6-hour run time (with two 5-gal LP bottles)
 - One 1½in. and one garden hose intake (150-psi maximum)
 - Dual garden hose discharge outlets
 - Adjustable siphon injection system
 - Adjustable temperature control
 - 3-gpm flow rate

Size

- Shower – Information unavailable at time of printing
- Hot-Water System – 26 in. (W) x 28 in. (D) x 53 in. (H)

Shelf Life

N/A

Accessories (available at extra cost)

- Runoff Collection Pool
- Decontamination elevation grid
- Variety of air-beam inflatable shelters

Weight

- Shower – Information unavailable at time of printing
- Hot-Water System – 255 lbs. (approx.)

Approvals

N/A

Manufacturer / Distributor

Air-Lite Inflatables, Inc.
Haines, OR 77040
(713) 462-8700



**Air-Lite, Decontamination Shower and Hot Water Systems –
Modular Mass Casualty Decontamination Systems**

Equipment Type:

HAZMAT Decontamination Shower

Make / Model:

Model HDS 6012

Description:

This is a portable, easy to set up decontamination shower designed for use with HAZMAT response teams. It is constructed of 1½ in. diameter PVC pipe. The shower is designed to be placed in the RMC HAZMAT pool, which is intended to prevent contaminated runoff. The water supply is provided via a manifold reducer, which allows use with standard fire apparatus. The shower breaks down and stows in a canvas duffel bag.

Features / Benefits

- Color coded for ease of assembly
- Reusable

Specifications

N/A

Size

- Collapsed – 48 in. x 18 in. x 8 in.
- Setup –

Weight

N/A

Shelf Life

N/A

Accessories (available at extra cost)

Manifold system with 1½ in. adapter, decontamination pool, decontamination elevation grid, and shower curtain

Approvals

Currently in use with Washington Metropolitan Area (WMA) Metropolitan Medical Strike Team (MMST)

Manufacturer / Distributor

RMC Medical
Philadelphia, PA 19154
(215) 824-4100

Vallen Safety Supply Co.
Houston, TX 77040
(713) 462-8700



HAZMAT Decontamination Shower



H66-B

**Model HDS 6012 –
HAZMAT Decontamination Shower**

DECONTAMINATION EQUIPMENT:
Secondary/Individual Decontamination Systems and Supplies

Equipment Type:

Secondary / Individual / Equipment Decontamination

Make / Model:

M295 Kit, Decontamination, Individual Equipment

Description:

This is a personal use kit designed to decontaminate chemical warfare agents. The kit contains four hermetically sealed packets that contain one single use mitt. The mitt consists of non-woven fiber pad saturated with decontamination powder (synthetic resin mixture, E-555). After use, the mitt is disposed of as hazardous waste.

Features / Benefits

- Easy to use, blot, and wipe to remove agent
- Effective for decontamination of nerve and blister agents

Specifications

- Operating Temperature: -25 °F to 160 °F
- Mitt consists of non-woven fiber pad saturated with synthetic resin mixture, E-555 consisting of:
 - Sorptive resin
 - Strong acid ion-exchange resin
 - Strong base ion-exchange resin
 - Total water content is 25% by weight

Size

9 in. (L) x 5.5 in. (W) x 2 in. (T)

Weight

8 oz.

Shelf Life

N/A

Accessories

N/A

Approvals

Currently in use with U.S. military forces and WMA MMST

Manufacturer / Distributor

TrueTech, Inc.
Riverhead, NY 11901-2585
(516) 727-8600

Equipment Type:

Secondary / Individual / Equipment Decontamination

Make / Model:

M291 Skin Decontamination Kit

Description:

This is a personal use kit for the removal of chemical warfare agents from the skin. The kit contains six individual decontamination packets containing a non-woven fiber applicator pad filled with decon powder (synthetic resin mixture, E-555). After use, the pads are disposed of as hazardous waste.

Features / Benefits

- Easy to use, blot, and wipe to remove agent
- Effective for skin decontamination of nerve and blister agents

Specifications

- Operating Temperature: -50 °F to 120 °F
- Decontamination pads consist of non-woven fiber pad saturated with synthetic resin mixture, E-555 consisting of:
 - Sorptive resin
 - Strong acid ion-exchange resin
 - Strong base ion-exchange resin
- Total water content is 25% by weight

Size

4.4 in. (H) x 9.3 in. (W) x 0.7 in. (T)

Weight

1.6 oz.

Shelf Life

N/A

Accessories

N/A

Approvals

Currently in use with U.S. military forces

Manufacturer / Distributor

TrueTech, Inc.
Riverhead, NY 11901-2585
(516) 727-8600



H66-41

**M291 Skin Decontamination Kit –
Secondary / Individual / Equipment Decontamination**

Equipment Type:

Secondary / Individual / Equipment Decontamination

Make / Model:

Canadian Reactive Skin Decontaminating Lotion (RSDL)

Description:

This is a broad spectrum, personal use, lotion-base decontaminant that is nonirritating to the skin and eyes, designed to decontaminate chemical warfare agents and select biological agents. RSDL is compatible with most skin types and, once applied, may be washed off with water.

Features / Benefits

- May be used as a wound decontaminant
- Offers protection as a “barrier cream” prior to exposure to chemical warfare agent
- Effective for skin decontamination of nerve and blister agents
- Residue and decontaminated agent is nontoxic

Specifications

- Self-indicating reactivity to agent, turns from transparent yellow to clear as reactive decontamination agent is consumed
- Single use pouch with one impregnated (RSDL 45g) foam pad
- 500-ml dispensing bottle

Size

N/A

Weight

N/A

Shelf Life

N/A

Accessories

N/A

Approvals

N/A

Manufacturer / Distributor

Therapex / E-Z-EM Canada, Inc.

O'Dell Engineering Ltd.
Ontario, Canada
(519) 740-8620

MODEC, Inc.
Denver, CO
(303) 286-1546

Equipment Type:

Secondary Decontamination System Supplies

Make / Model:**Description:**

The items listed are intended to supplement the primary decontamination system and to provide limited decontamination capability where needed. The items may be procured locally.

“Solo” Backpack 5-gal. sprayer	15 ea.
100-ft. garden type hoses	10 ea.
Fan sprayers for hoses	10 ea.
Sponges	24 ea.
20-in. brushes	24 ea.
Fire hose reducing manifold	3 ea.

Features / Benefits

- Low cost
- Disposable
- Easily replaced

Specifications

N/A

Size

N/A

Weight

N/A

Shelf Life

N/A

Accessories

N/A

Approvals

N/A

Manufacturer / Distributor

Various, available locally



Secondary Decontamination System



Secondary Decontamination System Supplies

Equipment Type:

Decontaminant

Make / Model:**Description:**

The decontaminants listed are effective against nerve agent (Sarin and VX) and mustard (H), and are recommended for use on skin and equipment. The decontaminant includes dry and liquid soap used with water and various forms of active chlorine (liquid and dry).

Features / Benefits

- Readily available
- Easy to store and prepare

Specifications

- Chlorine content at least 5% by volume when mixed with water
- Bactricidal or germicidal soap, as appropriate

Size

Various

Weight

Various

Shelf Life

Rotate stock in accordance with manufacturer's specifications

Accessories

- Containers to mix and apply decontamination solution
- Brushes / sponges

Approvals

N/A

Manufacturer / Distributor

Various



H99-36

Decontaminants

Type of Agent	Effects	Onset	First Aid	Skin Decon	Detection
Nerve: GA, GB, GD, GF, VX	Vapor: miosis, rhinorrhea, and dyspnea Liquid: sweating, vomiting Both: convulsions, apnea	Seconds Minutes to hours	MARK I (1 to 3), Diazepam	M291, M258A1, bleach, water	M8A1 alarm, M256A1, M8, M9 papers, CAM
Vesicants: H, HD, L	Erythema, blisters, irritation of eyes, cough, and dyspnea	Hours (immediate pain after L)	None	Same as above	M256A1, M8, M9 papers, CAM
Cyanide: AC, CK	Loss of conscious- ness, convulsions, and apnea	Seconds	None (nitrite and thiosulfate)	None usually needed	M256A1
Pulmonary: CG (PFIB, HC)	Dyspnea, coughing	Hours	None	None usually needed	None
Riot Control: CS, CN	Burning, stinging of eyes, nose, airways, and skin	Seconds	None	Water	None

Decontaminant	Decontaminate	Mixing Procedures	Remarks
Sodium Hypochlorite Solution (Household Bleach)	Blister, V Agent, BIO, and CN (Tear)	50/50 mixture of bleach and water	Flush with clear water after use
Sodium Carbonate (Washing Soda)	Vomiting, G, and CN	10-lb soda to 12-gal water, 10% solution	Possible sources; commercial, laundry, and chemical firms
Soap and Water (Hot)	G and V on skin Liquid mustard agent, blood agent, arsenical, blister, tear, and vomiting	Mix thoroughly and keep hot	
M258A1 or M291 Decon Kit	G, V, mustards, arsenical, and blister	None	Only decontaminant available for paper

Table 1. Decontaminants Using Active Chlorine (Refs. 1, 3, 4, 5, and 8)

Decontaminant	Composition	Application
Household Bleach (Refs. 1, 3, 5, and 8)	2-6 wt percent NaOCl in water	Skin and equipment
High-Test Hypochlorite (HTH) High-Test Bleach (HTB) (Refs. 1, 4, and 5)	Ca(OCl)Cl + Ca(OCl) ₂ as a solid powder or as a 7-percent aqueous slurry (about 70-percent available chlorine)	Equipment or terrain
Super Tropical Bleach (STB) (Refs. 1, 4, 5, and 8)	Ca(OCl) ₂ + CaO as a solid powder or as 7-, 13-, 40-, and 70-wt percent aqueous slurries (30- to 35-percent available chlorine)	Equipment or terrain
Dutch Powder (Ref. 3)	Ca(OCl) ₂ + MgO	Skin and equipment
Activated Solution of Hypochlorite (ASH) (Refs. 3 and 5)	0.5-percent Ca(OCl) ₂ + 0.5-percent NaH ₂ PO ₄ buffer + 0.05-percent detergent in water	Skin and equipment
Self-Limiting Activated Solution of Hypochlorite (SLASH) (Refs. 3 and 5)	0.5-percent Ca(OCl) ₂ + 1.0-percent Na ₃ C ₆ H ₅ O ₇ + 0.2-percent H ₃ C ₆ H ₅ O ₇ + 0.05 percent detergent in water	Skin and equipment
German C8 Emulsion (Ref. 3)	Emulsion of 76-percent water, 15 percent perchloroethylene, 1-percent anionic surfactant, and 8-percent HTH	Equipment or terrain
Multipurpose Chemical/Biological Decontaminant (MCBD) (Ref. 3)	Microemulsion of 60-percent water, 5-percent HTH, 7-percent perchloroethylene, and the remainder cationic surfactant, cosurfactant, and sodium borate buffer (PH≈10)	Equipment or terrain
Chloramine (1,3-dichloro-5,5-dimethylhydantoin). The active component in Decontaminating Agent, Non-Corrosive (DANC) (Refs. 4, 5, and 8)	6.25-percent chloramine in 1,1,2,2-tetrachloroethane	Equipment

DECONTAMINATION EQUIPMENT:
Decontamination System Accessory Items

Equipment Type:

Overpack Drums

Make / Model:**Description:**

These are Polyethylene storage drums. The twist-on lids have a closed cell polyethylene gasket and are easily secured without tools. They provide a safe and economical means to transport and temporarily store containers of hazardous liquid or other contaminated material. They accept all steel drums up to 55-gal. size.

Features / Benefits

Durable and decontaminable

Specifications

N/A

Size31 in. x 40³/₄ in.**Weight**

N/A

Shelf Life

N/A

Accessories

Steel drums up to 55 gal.

Approvals

Meets standards of Department of Transportation (DOT) 49, Code of Federal Regulations (CFR) 1733

Manufacturer / Distributor

Vallen Safety Supply Company

Houston, TX 77040

(713) 462 8700

Overpack Drums



H36-26

Overpack Drums

Equipment Type:

Bags, Various

Make / Model:**Description:**

- The “Personal Belongings” bags are for use by team members and personnel processing through the decontamination station.
- The “Cadaver” bags are to assist with mass fatality management.
- The “Laundry” bags and color-coded “polyethylene liners” are used primarily at the decontamination station for the collection of contaminated clothing and waste material.

Features / Benefits

- Personal Belongings: zipper style with write-on label
- Cadaver: contains fluids, center or side zipper closure, comes with 3-part ID tag and two color coded stickers for proper labeling
- Poly-Liners: sealed bottom, safe for landfill disposal or incineration
- Laundry: resistant to most organic solvents, impervious to most gases

Specifications

- Personal Belongings – Clear with white “write-on” block, 4-mil. polyethylene, 8 in. (W) x 10 in. (L)
- Cadaver – White, 10-mil. coated vinyl with dielectrically sealed seams. Maximum weight capacity of 350 lbs., 36 in. x 90 in.
- Poly-liners – Red, 4 mil., with imprinted message “Contaminated Disposables,” low density, free of heavy metals, 20 in. (W) x 13 in. (D) x 39 in. (L)
- Laundry – Clear, 1¼ mil., static free, completely soluble in water at 140 °F, can be heat sealed or with built-in ties, 36 in. (W) x 39 in. (L)

Size

See above

Weight

See above

Shelf Life

Indefinite

Accessories

N/A

Approvals

N/A

Manufacturer / Distributor

Associated Bag Co.
Milwaukee, WI 53207-7120
(800) 926-4610

Personal Belongings Bags



140-229



Cadaver Bags

Water Soluble
Laundry Bags



Poly Liners



Poly Liners



1100-1040

Bags (Various)

Equipment Type:

Redress garments

Make / Model:**Description:**

These are intended for use at the “clean” side of the decontamination station. The garments are to replace contaminated clothing removed by personnel as they enter the station and should be donned as they process out of the station. The garment types include disposable coveralls and paper hospital gowns.

Features / Benefits

- Lightweight, easy to store
- Range of sizes available
- Disposable after use

Specifications:

Appropriate for patient redress at decontamination station

Size

Various

Weight

N/A

Shelf Life

Indefinite

Accessories

Slippers / suitable foot covers

Approvals

N/A

Manufacturer / Distributor

Vallen Safety Supply Company
Houston, TX 77040
(713) 462-8700

MEDICAL / PHARMACEUTICAL SUPPLIES

Equipment Type:

Victim Resuscitation / Oxygen Administration

Make / Model:

Lifesaving Systems, “EM100 Oxlator” and “Oxlator Resus

Description:

The “EM100 Oxlator” resuscitation and inhalation system is designed to deliver a consistent volume of 100% O₂ or regular breathing air at positive pressure for patient ventilation. The “Oxlator Resuscitation Kit” provides the required equipment to resuscitate / ventilate up to four patients using compressed O₂ or compressed air from a conventional Self-Contained Breathing Apparatus (SCBA).

Features / Benefits

- Provides “hands-free” ventilation and ability to ventilate patients in confined spaces
- Easily cleaned and disinfected
- The system offers a “Manual” or “Continuous” mode of operation

Specifications

- “EM100 Oxlator”:
 - Adjustable flow rate of 1.0 to 40 l/mn
 - Audible and visual inspiratory phase alarm
 - Operating temperature: -30 °C to 60 °C
 - Maximum deadspace = 20 ml
- Kit components include:
 - One Kit Bag; four “EM100 Oxlator” systems; four Coiled braided hose (length unspecified) with female DISS connection; two 50 ft. hoses with female DISS connection; two 30-ft. hoses with female DISS connection; four SCBA Regulators with gauges and DISS ports; four Ohio Female / DISS male quick-connects; four Ohio male / DISS male quick-connects

Size

N/A

Weight

N/A

Shelf Life

N/A

Accessories

Contact manufacturer for up-to-date accessory and related items list

Approvals

N/A

Manufacturer / Distributor

Lifesaving Systems, Inc
Marietta, GA 30062
(770) 977-9907



**Lifesaving Systems, “EM100 Oxylator” and “Oxylator Resuscitation Kit”
Victim Resuscitation / Oxygen Administration**

Equipment Type:

Mass Casualty / Trauma Supplies

Make / Model:

Superior Disaster Systems, Emergency Response Modules

Description:

Superior Disaster Systems offers a modular approach to mass casualty response readiness. The product line includes a variety of trailers prestocked with the requisite supplies to support a general medical response, to support mass casualty decontamination operations, or to support mass fatality management operations for a predetermined number of patients / casualties.

Features / Benefits

- Modular approach simplifies acquisition, storage, management, and deployment
- Components of the various modules include portable shelters, generators, light sets, tables and chairs, litters, dressings and bandages, tape, splints, face masks, decontamination showers, runoff collection pools, body / cadaver bags, etc.

Specifications

- Mass Casualty Medical Module (two sizes available)
- Hazardous Materials (HAZMAT) Decontamination Module
- Combination Decontamination and Medical Module
- Field Morgue Module

Size

N/A

Weight

N/A

Shelf Life

N/A

Accessories

Contact the manufacturer for complete list of modules, accessories, and related items

Approvals

N/A

Manufacturer / Distributor

Superior Disaster Systems, Inc.
Thousand Oaks, CA 21075-6460
(805) 492-0393



**Superior Disaster Systems, Emergency Response Modules –
Mass Casualty / Trauma Supplies**



**Superior Disaster Systems, Emergency Response Modules –
Mass Casualty / Trauma Supplies**



**Superior Disaster Systems, Emergency Response Modules –
Mass Casualty / Trauma Supplies**

Equipment Type:

Stretchers / Rescue Litter

Make / Model:

North American Rescue, “Raven” Rescue Litter

Description:

The “Raven” rescue litter was designed for emergency response teams. The frame is built of 1 1/8-in. aluminum alloy tubing with an automatic locking hinge, and incorporates ergonomically designed thermoplastic / fiberglass handles. The woven, mono-filament, polypropylene cover allows for fluid drainage and is easily replaced or decontaminated.

Features / Benefits

- Attached patient restraints with “Quick-Release” buckles
- All components are replaceable

Specifications

- Flame retardant materials
- Chemical resistant finish
- Payload rated at 300 lbs.

Size

- Folded – 40 in. (L) x 7 in. (W) x 4 in. (H)
- Extended – 81 in. (L) x 22 in. (W) x 6 in. (H)

Weight

11 lbs.

Shelf Life

N/A

Accessories

N/A

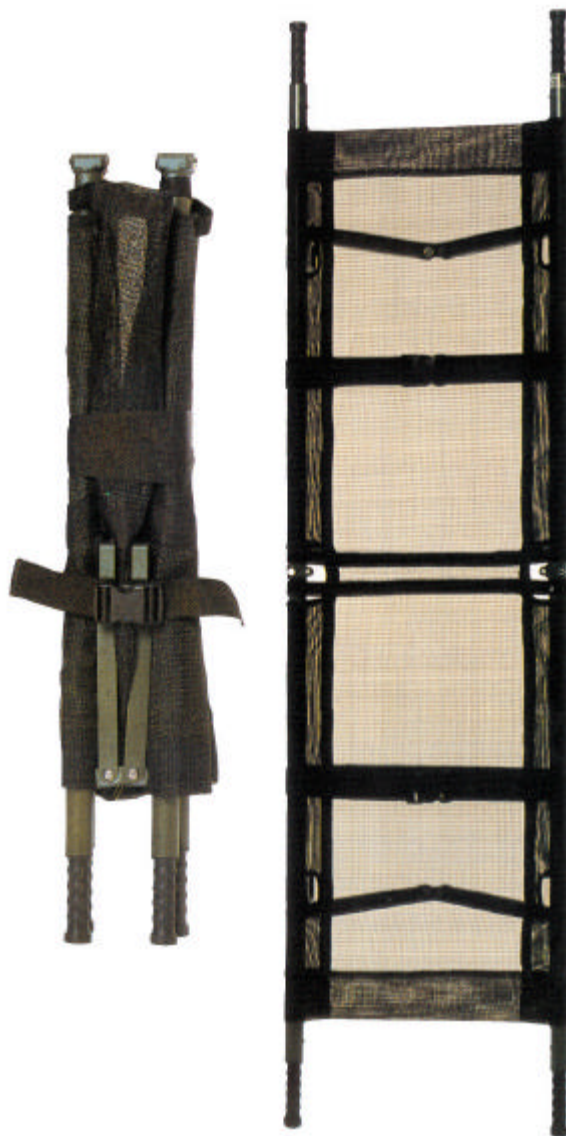
Approvals

N/A

Manufacturer / Distributor

North American Rescue Products, Inc.
Elkridge, MD 21075-6460
(410) 799-2877

Raven Stretchers



H66-16

North American Rescue, “Raven” Rescue Litter

Equipment Type:

Stretchers / Rescue Litter

Make / Model:

North American Rescue, “StingRay” Emergency Response Litter

Description:

The “StingRay” is a nonrigid litter designed for emergency response to a mass casualty event. The litter is constructed from a proprietary monofilament / polypropylene fabric that allows for maximum drainage of fluids while providing a nonslip surface for patient contact.

Features / Benefits

- Attached patient restraints with “Quick-Release” buckles
- Decontaminable fabric construction
- Built-in slots for carrying poles

Specifications

- Flame retardant and chemical resistant materials
- Six carrying points
- Folded – 12 in. x 12 in. x 2 in.
- Extended – 78 in. x 24 in.

Weight

3.3 lbs. (approx.)

Shelf Life

N/A

Accessories

N/A

Approvals

N/A

Manufacturer / Distributor

North American Rescue Products, Inc.
Elkridge, MD 21075-6460
(410) 799-2877



StingRayTM

Emergency Response Litter/Transfer Sheet

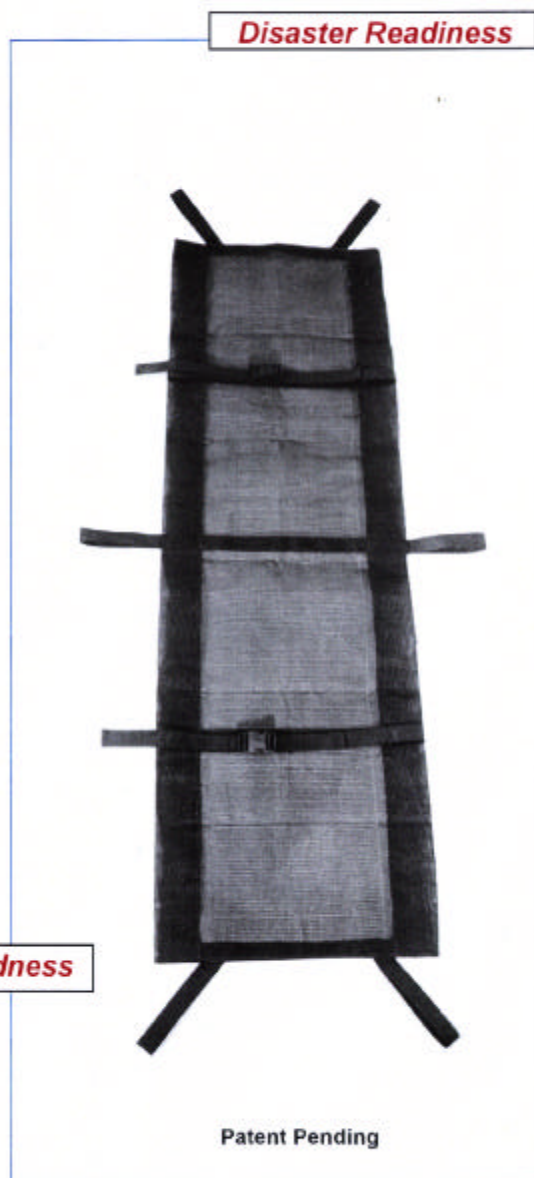
StingRayTM is a new lightweight litter that has been specially designed for disaster preparation and mass casualty incidents. StingRayTM is ideal for long-term storage or where space is at a premium. StingRayTM is also an excellent choice for a wide range of rescue and medical operations, such as urban and relief, wilderness rescue, tactical operations, and hazardous material operations.

StingRayTM Special Features:

- Flame retardant materials
- Chemical & mildew resistant
- Decontaminable materials
- Built-in patient restraint straps
- Slip resistant litter surface
- Built-in slots for poles
- Six (6) carrying points
- Weather & UV resistant
- Indefinite shelf life
- Made in America



Disaster Preparedness



Products with a MissionTM

North American Rescue, "StingRay" Emergency Response Litter

Equipment Type:

Specialized Pharmaceuticals

Make / Model:

Meridian Medical Technologies, Nerve Agent Antidote Auto-Injector

Description:

Meridian Medical technologies currently manufactures the MK1 Nerve Agent Auto-Kit (NAAK) and the CANA (Convulsive Antidote, Nerve Agent) Kit for the U.S. Department of Defense (DoD). Product improvements include a dual chamber auto-injector that combines atropine and 2PAM in a single injector.

Features / Benefits

- Easy to use, administers premeasured dose of antidote
- Small and compact, easy to transport

Specifications

- Mk1 NAAK comprises:
 - One “ATROPEN” auto-injector containing 2 mg of Atropine Sulfate Equivalent in 0.7 ml
 - One “COMBOPEN” auto-injector containing 600 mg Pralidoxime Chloride in 2 ml
- CANA (Diazepam) auto-injector contains 10 mg Diazepam in 2 ml

Size

N/A

Weight

N/A

Shelf Life

- MK1 NAAK / 5 years from date of manufacture
- CANA / 2 years from date of manufacture

Accessories

Training versions, without needles or drug product, are available

Approvals

U.S. Food and Drug Administration (FDA) approved for chemical agent treatment

Manufacturer / Distributor

Meridian Medical Technologies, Inc
Columbia, MD
(410) 309-1477

Auto-Injector Technology for Domestic Preparedness

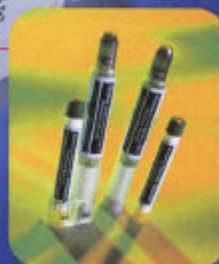
STI Government Systems



AUTOMATIC ADVANTAGES FOR DOMESTIC PREPAREDNESS

Meridian Medical Technologies, Inc. introduced the concept of auto-injector self administration to the military medical community. Meridian's STI Government Systems maintains world leadership in auto-injector technology through innovative development and a commitment to quality.

Products fielded by STI Government Systems include a broad range of auto-injector delivery systems and drug formulations for domestic preparedness. STI Government Systems offers experience in R&D and cGMP production capabilities and can customize and package a wide range of formulations for auto-injection.



Training devices developed to assist in teaching domestic preparedness first responders how to use the auto-injectors.

**Meridian Medical Technologies, Nerve Agent Antidote Auto-Injector –
Specialized Pharmaceuticals**

Equipment Type:

Specialized Pharmaceuticals

Make / Model:

Taylor Pharmaceuticals, "Cyanide Antidote Package"

Description:

Formerly known as the "Pasadena Cyanide Kit," the Taylor Pharmaceuticals, "Cyanide Antidote Package" contains the required drugs to provide one complete treatment regimen for one (adult) cyanide exposure patient, or to provide the initial treatment regimen for two (adult) cyanide exposure patients, with the appropriate single use syringes and related items.

Features / Benefits

All required drugs and associated items required for administration are included in the kit

Specifications

- Each kit contains:
 - 2 ampules Sodium Nitrite injection, USP 300 mg in 10 ml water for injection
 - 2 vials Sodium thiosulfate injection, USP 12.5g in 50 ml water for injection
 - 12 ampules Amyl Nitrite Inhalants, USP 5 mg (0.3 ml)
 - 1 sterile 10-ml plastic disposable syringe with 22-ga needle
 - 1 sterile 60-ml plastic disposable syringe
 - 1 sterile disposable 20-ga needle
 - 1 stomach tube
 - 1 non-sterile 60-ml syringe
 - 1 tourniquet
 - 1 set of instructions for treatment of cyanide poisoning

Size

12 in. x 12 in. x 2 in. (approx.)

Weight

N/A

Shelf Life

2 years from date of manufacture

Accessories

N/A

Approvals

N/A

Manufacturer / Distributor

Taylor Pharmaceuticals
San Clemente, CA 92673
(800) 223-9851

Equipment Type:

Specialized Pharmaceuticals

Make / Model:

Hope Pharmaceuticals, “Bulk” Organophosphate (Nerve Agent) and Cyanide Antidote

Description:

Hope Pharmaceuticals manufactures a variety of drug products. Specific products of interest include bulk quantity packaging of Sodium Nitrite and Sodium Thiosulfate for the treatment of cyanide poisoning, and Atropine Sulfate in soluble tablet form for reconstitution and intramuscular injection to treat organophosphate (nerve agent) poisoning.

Features / Benefits

- “Bulk” purchase of specialized drugs may offer overall cost reduction
- Acquisition of “bulk” quantities of specialized drugs offers flexibility in response planning and management for a mass casualty event

Specifications

- Sodium Nitrite Injection, USP 30 mg/ml, available in 10-ml ampules, two ampules per package
- Sodium Thiosulfate Injection, USP 12.5g in 50-ml vials, one vial per package
- Atropine Sulfate in 0.4-mg tablet form for reconstitution

Size

N/A

Weight

N/A

Shelf Life

2 years from date of manufacture for the drugs identified above

Accessories

N/A

Approvals

N/A

Manufacturer / Distributor

Hope Pharmaceuticals
Scottsdale, AZ
(602) 607-1970

GENERAL SUPPORT

Equipment Type:

Jumbo Turnout Bag

Make / Model:

Model P-BG065

Description:

This is a large and roomy equipment bag. It is constructed of 1,000 denier nylon with wrap-around reinforcing webbing and two webbed handles. It features a two-way zipper closure for easy access.

Features / Benefits

- Water resistant
- 5-in. "Maltese Cross" emblem screen printed on front of bag

Colors

Red with black handles and emblem

Specifications

- Single large compartment
- Zip closed exterior pocket

Size

16.5 in. (H) x 29.25 in. (W) x 12.5 in. (D)

Weight

N/A

Shelf Life

N/A

Accessories

None

Approvals

Currently in use with Washington Metropolitan Area (WMA) Metropolitan Medical Strike Team (MMST)

Manufacturer / Distributor

Gall's Inc.
Lexington, KY 40555-4308
(800) 477-4766

Gall's Jumbo Turnout Bag



H68-40

Model P-BG065, Jumbo Turnout Bag

Equipment Type:

Command / Equipment Trailers

Make / Model:**Description:**

Equipment trailers allow Metropolitan Medical Response System (MMRS) equipment to be stored in a centralized location. The components include a fully enclosed and lockable body on an appropriate frame / axle combination with hitch, safety cables or chains, lighting package (interior / exterior), level indicators, and leveling system.

Features / Benefits

- Allows for secure storage of equipment
- Provides centralized issue point of equipment
- Allows for rapid response / deployment

Specifications

N/A

Color

Paint scheme to meet user requirements

Size

User selectable

Weight

N/A

Shelf Life

N/A

Accessories

Tandem axle, enclosed cargo body with side and rear lockable doors, appropriate lighting (interior / exterior), shelving or other storage, work station with 110v electrical receptacles, external power supply receptacle(s), and heating / cooling capability, as required

Approvals

- WMA MMST is using an 18-ft., 7,000-lbs. GVW “Haul Mark” trailer
- AMA MMST is using a 20-ft., 7,700-lbs. GVW “Wells Cargo” trailer

Manufacturer / Distributor

Local Purchase



20-ft. Equipment Trailer



**Equipment
Trailer**

Command / Equipment Trailers

Equipment Type:

Field Support Packaging

Make / Model:**Description:**

These are reusable shipping containers, 17-gal. size, Model # 1BZ16. They are used to store and protect various items of equipment used by the MMST. They can be nested when empty, stacked when full. These are low cost and decontaminable, if required.

Features / Benefits

- Lightweight
- Lockable
- Easy to color code for identification of contents

Specifications

- Injection molded polyethylene
- Two-piece interlocking lid
- Stainless Steel hinge pins

Color

Gray

Size

21½ in. (L) x 15 in. (W) x 17 in. (H), 3.17 cubic ft.

Weight

9 lbs. (approx.)

Shelf Life

N/A

Accessories

Variety of sizes available

Approvals

Currently in use by AMA MMST

Manufacturer / Distributor

Ackro-Mills

Grainger Industrial /
Commercial Equipment & Supplies
345 Locations Nationwide
(800) 323-0620

AKRO - Mills Storage Container



H66-30a

Field Support Packaging

Equipment Type:

Field Support Packaging

Make / Model:

“Pelican” Cases

Description:

These are rigid equipment cases made from structural resin with foam packing inserts. The cases incorporate a neoprene O-ring seal and purge valve making them watertight and airtight. They are used to store and transport sensitive items of MMRS equipment.

Features / Benefits

- Watertight and airtight to 30 fsw
- Locking flanges and multiple latches

Specifications

N/A

Size

Various, see chart

Weight

Various, see chart

Shelf Life

N/A

Accessories

- Custom colors and inserts
- Personalized nameplate engraving and private logs available

Approvals

N/A

Manufacturer / Distributor

Pelican Products, Inc.
Torrance, CA 90505
(310) 326-4700

PELICAN[®]

THE WORLD'S TOUGHEST WATERTIGHT EQUIPMENT PROTECTOR CASES



**MADE
IN
THE
USA**

- **LIGHTWEIGHT
SPACE-AGE
STRUCTURAL RESIN**
- **O-RING SEALED**
- **ATMOSPHERIC
PURGE VALVE**
- **UNCONDITIONAL
LIFETIME
GUARANTEE OF
EXCELLENCE**

Technical Safety &
Rescue Products
P.O. Box 588 Sandston, VA 23150-0588
Richmond 804-222-1238 800-359-4617

(310) 326-4700 • FAX (310) 326-4701

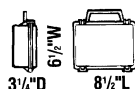
H66-10

“Pelican” Cases, Field Support Packaging

PELICAN PROTECTOR® EQUIPMENT CASES

Watertight and airtight to 30 feet for the ultimate in protection. Constructed of light-weight space age structural resin with a neoprene o-ring seal and exclusive purge valve. Supplied complete with pre-scored pick n' pluck foam or padded dividers (no cutting required). Also includes locking flanges, massive multiple latches for absolute security and a comfortable molded fold down handle. Integral Personalized Nameplate engraved at optional cost. Custom colors and foam inserts fabricated on special order. Private label logos available. #1700 and #1750 supplied with regular foam, pick & pluck is not available.

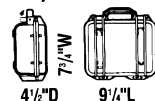
MADE IN USA



1100 GUARD BOX® (NO FOAM)

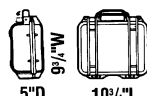
Outside Dimensions: 8 1/2" L x 6 1/2" W x 3 1/4" D. Inside Dimensions: 7 1/2" L x 4 3/4" W x 3 1/4" D. Colors: Black, Blue, Orange, Yellow, Lime Green, Hot Pink. Shipping Weight: 1 lb. 2 oz. Master Pack 6 ea.

#1100 F GUARD BOX® (With Foam)



1150 CASE™

Outside Dimensions: 9 1/4" L x 7 1/4" W x 4 1/2" D. Inside Dimensions: 8 1/2" L x 6" W x 3 3/4" D. Fold down handle. Colors: Black, Blue, Silver, Yellow, Hot Pink, Lime Green. Shipping Weight: 2.5 lbs. Master Pack 12 ea.



1200 CASE™

Outside Dimensions: 10 3/4" L x 9 3/4" W x 5" D. Inside Dimensions: 9 1/2" L x 7 1/2" W x 4 1/2" D. Fold down handle. Colors: Black, Silver, Yellow. Shipping Weight: 3 lbs. Master Pack 6 ea.



1300 CASE™

Outside Dimensions: 10 3/4" L x 9 3/4" W x 7" D. Inside Dimensions: 9 1/2" L x 7 1/2" W x 6 1/2" D. Fold down handle. Colors: Black, Silver, Yellow. Shipping Weight: 3 1/2 lbs. Master Pack 4 ea.



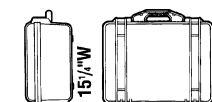
1400 CASE™

Outside Dimensions: 13" L x 12" W x 6" D. Inside Dimensions: 12 1/4" L x 9 1/4" W x 5 1/4" D. Fold down handle, Integral Personalized Nameplate. Colors: Black, Silver. Shipping Weight: 5 1/2 lbs. Master Pack 4 ea.



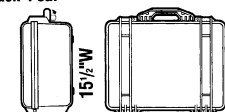
1450 CASE™

Outside Dimensions: 16" L x 13" W x 7" D. Inside Dimensions: 15" L x 10 1/2" W x 6" D. Fold down handle, Integral Personalized Nameplate. Colors: Black, Silver. Shipping Weight: 7 1/2 lbs. Master Pack 4 ea.



1500 CASE™

Outside Dimensions: 18 1/2" L x 15 1/4" W x 6 7/8" D. Inside Dimensions: 17" L x 11 3/4" W x 6" D. Integral Personalized Nameplate. Colors: Black, Silver. Shipping Weight: 8 1/2 lbs. Master Pack 4 ea.

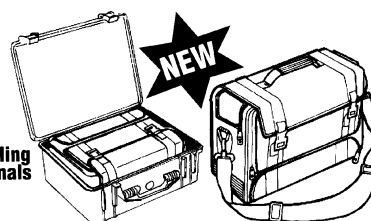


1520 CASE™

Outside Dimensions: 19 1/4" L x 15 1/2" W x 7 1/2" D. Inside Dimensions: 18" L x 12 1/4" W x 6 3/4" D. Fold down handle, Large Latch Locks, Integral Personalized Nameplate. Colors: Black, Silver. Shipping Weight: 10 1/2 lbs. Master Pack 2 ea.

Technical Safety & Rescue Products

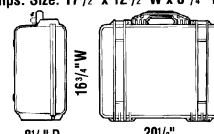
P.O. Box 588 Sandston, VA 23150-0588
Richmond 804-222-1238 800-359-4617



For The Traveling Professionals

1527 CONVERTIBLE TRAVEL BAG

Designed to fit inside a 1520 case. Converts instantly from hard case to soft bag, for complete hardknocks travel protection. Just pull out for short day trips etc. sling over shoulder and go without rearranging anything. Made of heavy duty waterproof padded Ballistic Nylon with multiple front and side gadget pockets. Velcro® padded adjustable divider system protects complete outfits. Exclusive top/side access to equipment while in use with thick curved and padded shoulder strap. All nylon zippers and clips. Size: 17 1/2" x 12 1/2" W x 6 1/4" D. Color: Black.



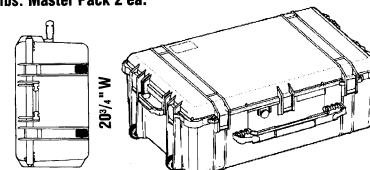
1550 CASE™

Outside Dimensions: 20 1/2" L x 16 1/4" W x 8 1/2" D. Inside Dimensions: 19" L x 14" W x 7 3/4" D. Fold down handle. Integral Personalized Nameplate. Colors: Black, Silver. Shipping Weight: 14 lbs. Master Pack 2 ea.



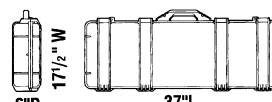
1600 CASE™

Outside Dimensions: 23 1/4" L x 20 3/4" W x 9" D. Inside Dimensions: 22" L x 17" W x 8" D. Integral Personalized Nameplate. Colors: Black, Silver. Shipping Weight: 17 lbs. Master Pack 2 ea.



1650 CASE™

Outside Dimensions: 31 1/2" L x 20 3/4" W x 11 1/2" D. Inside Dimensions: 29" L x 18" W x 10 1/2" D. Fold down main handle, large side trunk handles, 2" hard rubber transport wheels included, Integral Personalized Nameplate. Colors: Black, Silver. Shipping Weight: 17 1/2 lbs. Master Pack 1 ea.



1700 TRAVEL VAULT II®

Outside Dimensions: 37" L x 17 1/2" W x 6" D. Inside Dimensions: 36" L x 13 1/2" W x 5" D. Colors: Black. Shipping Weight: 17 lbs. Master Pack 2 ea.

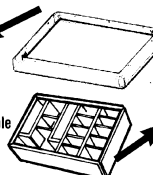


1750 TRAVEL VAULT®

Outside Dimensions: 52" L x 17 1/2" W x 6" D. Inside Dimensions: 50 3/4" L x 13 1/2" W x 5" D. Colors: Black. Shipping Weight: 29 lbs. Master Pack 1 ea.

SPECIAL APPLICATION PANEL FRAMES

For custom tailored applications. O-ring sealed and inserted frame. Includes frame, O-ring and inserts. Order by case number. Available for #1100, #1150, 1200, 1300, 1400, 1450, 1500, 1520, 1550.



VELCRO® PADDED ADJUSTABLE DIVIDER SYSTEM.

Dividers adjust to accommodate and protect a variety of sizes and shapes. Velcro® holds padded dividers snugly around equipment. Available for #1454, 1504, 1524, 1554, 1604.

Unconditional Lifetime Guarantee of Excellence

“Pelican” Cases, Field Support Packaging (Continued)

Equipment Type:

General Support / Generator

Make / Model:**Description:**

The specifications shown are for the generator in use by the WMA MMST. The unit in use is a Dayton heavy duty, long life model powered by a Yanmar air cooled diesel engine. It is rated for continuous use at full load.

Features / Benefits

- Reduces or eliminates reliance on public utilities, allows for independent operation
- Portable, allows for rapid response / deployment

Specifications

- 5kW-rated watts, 6,500-maximum VA
- 120v/41.7 amps, 240v/20.8 amp
- Two 120/240v, 30-amp Twist-Lock outlets
- Two 120V, 20-amp outlets
- 19-HP Yanmar diesel engine
- Electric start
- 4.2-gal. fuel tank / 8.3-hour run time @ 50% duty cycle
- Full wraparound steel frame with handle, lifting eye, and pneumatic wheel kit

Color

N/A

Size

35 in. (L) x 21 in. (W) x 26 in. (H)

Weight

350 lbs.

Shelf Life

N/A

Accessories

Varies with manufacturer / supplier

Approvals

WMA MMST has procured a Dayton HD, 5kW, Diesel powered generator, Model #1N171 from: Grainger Industrial Equipment & Supply Co. (800) 323-0620

Manufacturer / Distributor

Local Purchase

Equipment Type:

Portable Shelters

Make / Model:

TVI, Rigid-Frame Shelters

Description:

TVI shelters are rapidly deployable, rigid articulating frame shelters with available inner canopy liners and floors. The TVI line of shelters offer side and end entrance doors, and a flexible interior configuration due to the removable compartment dividers. Custom configurations are available and all shelters may be complexed for maximum utility.

Features / Benefits

- All components are replaceable in the field
- No external power sources or tools required for setup / deployment
- Frames are able to withstand up to 30-percent damage and remain self-supporting
- Canopies, liners, and floors are UV resistant and fire retardant

Specifications

- All shelter systems include the shelter, transport and storage bag, and anchor kit
- Various lengths and widths available

Color

Choice of red, green, white, or user may specify

Size

Contact manufacturer for complete list of standard size options

Weight

N/A

Shelf Life

N/A

Accessories

- Specialty shelters
- Trailer-mounted HVAC systems and generators
- Mass Casualty Decontamination Systems
- Contact manufacturer for complete list of accessory / related items

Approvals

N/A

Manufacturer / Distributor

TVI Corporation
Glendale, MD 19154
(800) 598-9712

TVI



TVI, Rigid-Frame Shelters, Portable Shelters

Equipment Type:

Portable Shelter

Make / Model:

Zumro, Air-Beam Inflatable Shelters

Description:

The ZUMRO shelters are portable and rapidly deployable “Airframe” supported shelters with available inner canopy liners and integral floors. The canopies offer multiple entrance doors and a variety of interior configurations. Shelter system components include a shower stall, electric inflator / deflator, two disposable decontamination pools, carrying case, and field repair kit.

Features / Benefits

- Dual inflator connections for quick setup, can be inflated with included inflator, standard air bottles or air compressor
- Canopy and floor replaceable in the field

Specifications

- Air frame and floor material is flame retardant, vinyl coated nylon, canopy material is urethane coated, UV protected nylon, window and skylight material is 30 mil. clear, marine grade vinyl
- Heater / air-conditioner connection sleeve
- Operating pressure is 3 psi, airframe is equipped with pressure relief valve

Color:

White air frame, orange canopy, and black floor

Size

Standard sizes for multi-purpose use; custom sizing available, contact manufacturer for details

Weight

Dependent on size

Shelf Life

N/A

Accessories

N/A

Approvals

N/A

Manufacturer / Distributor

Zumro, Inc.
Willow Grove, PA 19090
(800) 932-6003

RMC Medical
Philadelphia, PA 19154
(215) 824-4100

Zumro Portable Tent / Shelter



HGG-13

Zumro, Air-Beam Inflatable Shelters

Equipment Type:

Portable Shelters

Make / Model:

Air-Lite, Air-Beam Inflatable Shelters

Description:

The Air-Lite shelters are rapidly deployable “Airframe” supported shelters with double doors, integrated screen doors, and integrated floors. The shelters may be complexed to create custom configurations.

Features / Benefits

- Heavyweight urethane coated nylon fabric construction
- Multiple inflator options for quick setup, can be inflated with included inflator, standard air bottles, or air compressor
- Floor replaceable in the field

Specifications

- Three sizes available:
 - 12 ft. x 15 ft. w/ 5 ft. sidewall, 88 lbs. (approx.)
 - 10 ft. x 15 ft. w/ 4 ft. sidewall, 75 lbs. (approx.)
 - 10 ft. x 10 ft. w/ 4 ft. sidewall, 60 lbs. (approx.)

Color

Blue and Silver

Size

N/A

Weight

See above

Shelf Life

N/A

Accessories

- Wheeled storage box
- 12-volt dc Electric Inflator
- 12-volt Portable Battery
- 110-volt ac electric Inflator

Approvals

N/A

Manufacturer / Distributor

Air-Lite Inflatables, Inc.
Haines, OR 97154
(800) 200-1960



Air-Lite, Air-Beam Inflatable Shelters